Stomach Cancer

Figure 22


Definition: Stomach cancer usually develops slowly, over many years.[1] Pre-cancerous changes occur in the stomach lining, however these changes usually do not cause symptoms and most go undetected.[1]

Background: From 2002 to 2006, there was a yearly average of approximately **746** newly diagnosed cases of stomach cancer in Ohio.[2] During this same time period, Ohio experienced approximately **430** deaths each year due to stomach cancer.[2]

Stomach cancer most often occurs in people older than 65 years of age.[1] Stomach cancer is the leading cause of cancer-related deaths worldwide.[1] In the United States, the mortality rate has been decreasing and is most likely the result of refrigeration for food storage and using antibiotics to treat infections from *Helicobacter pylori.*[1]
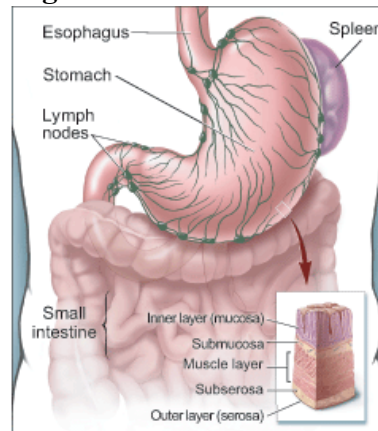
Cuyahoga County Data:
- The average annual number of newly diagnosed stomach cancer cases from 2002-2006 was **132,** with an age-adjusted incidence rate of **8.1** per 100,000 people.

- This is **higher** than the **6.1** incidence rate for Ohio and **higher** than the **7.9** incidence rate for the Nation.

- The average annual number of stomach cancer deaths from 2002-2006 was **80,** with an age-adjusted mortality rate of **4.8** per 100,000 people.

- This is **higher** than the **3.5** mortality rate for Ohio and **higher** than the **4.0** mortality rate for the Nation.

Table 22a   Stomach 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	73	11.2	59	5.9	132	8.1
Ohio	452	8.7	294	4.1	746	6.1
National SEER		11.0		5.5		7.9

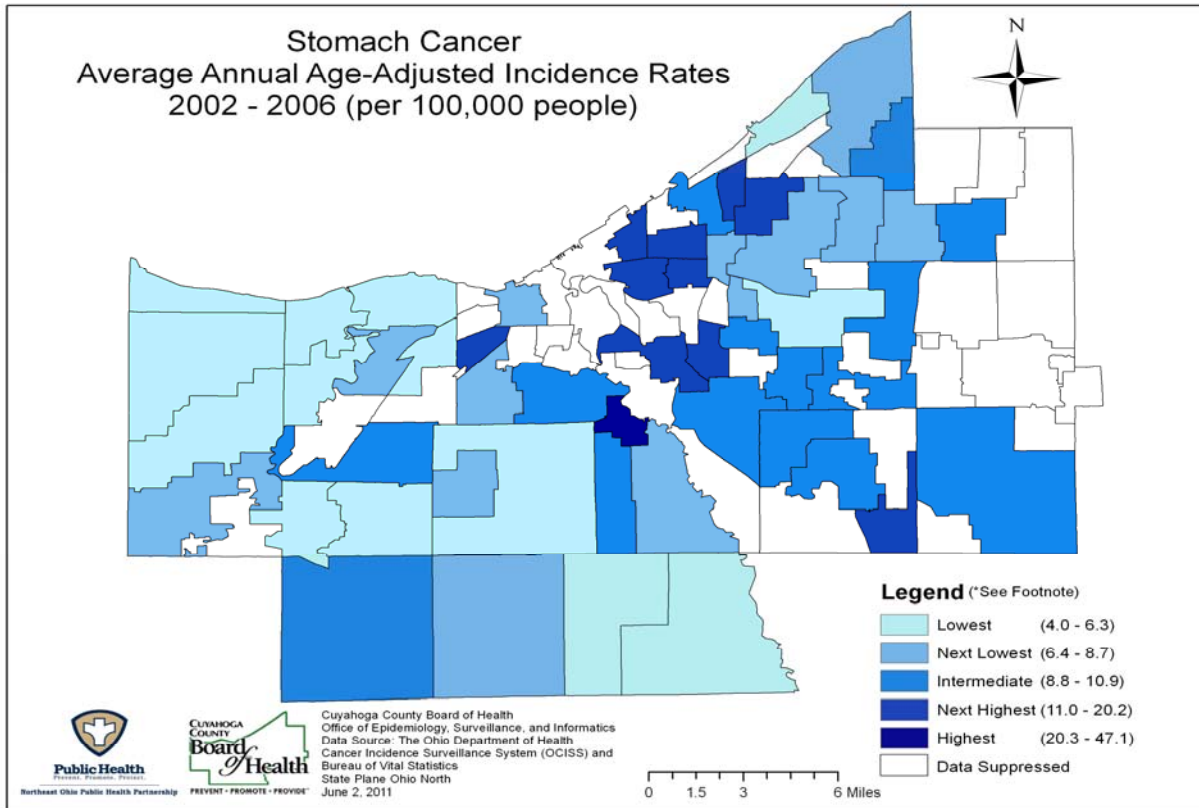* Rate is calculated per 100,000 people.

Table 22b   Stomach 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	41	6.5	38	3.7	80	4.8
Ohio	249	4.9	181	2.5	430	3.5
National SEER		5.5		2.8		4.0

* Rate is calculated per 100,000 people.

Figure 22a

Stomach Cancer
Average Annual Age-Adjusted Incidence Rates
2002 - 2006 (per 100,000 people)

Legend (*See Footnote)
- Lowest (4.0 - 6.3)
- Next Lowest (6.4 - 8.7)
- Intermediate (8.8 - 10.9)
- Next Highest (11.0 - 20.2)
- Highest (20.3 - 47.1)
- Data Suppressed

Cuyahoga County Board of Health
Office of Epidemiology, Surveillance, and Informatics
Data Source: The Ohio Department of Health
Cancer Incidence Surveillance System (OCISS) and
Bureau of Vital Statistics
State Plane Ohio North
June 2, 2011

0 1.5 3 6 Miles

Figure 22b

Stomach Cancer
Average Annual Age-Adjusted Mortality Rates
2002 - 2006 (per 100,000 people)

Legend (*See Footnote)
- Lowest (2.1 - 3.4)
- Next Lowest (3.5 - 4.7)
- Intermediate (4.8 - 6.0)
- Next Highest (6.1 - 9.2)
- Highest (9.3 - 13.8)
- Data Suppressed

Cuyahoga County Board of Health
Office of Epidemiology, Surveillance, and Informatics
Data Source: The Ohio Department of Health
Cancer Incidence Surveillance System (OCISS) and
Bureau of Vital Statistics
State Plane Ohio North
June 2, 2011

0 1.5 3 6 Miles

*Data were suppressed to help maintain confidentiality and /or due to concerns over unstable numbers. See methods/limitations section for additional details.
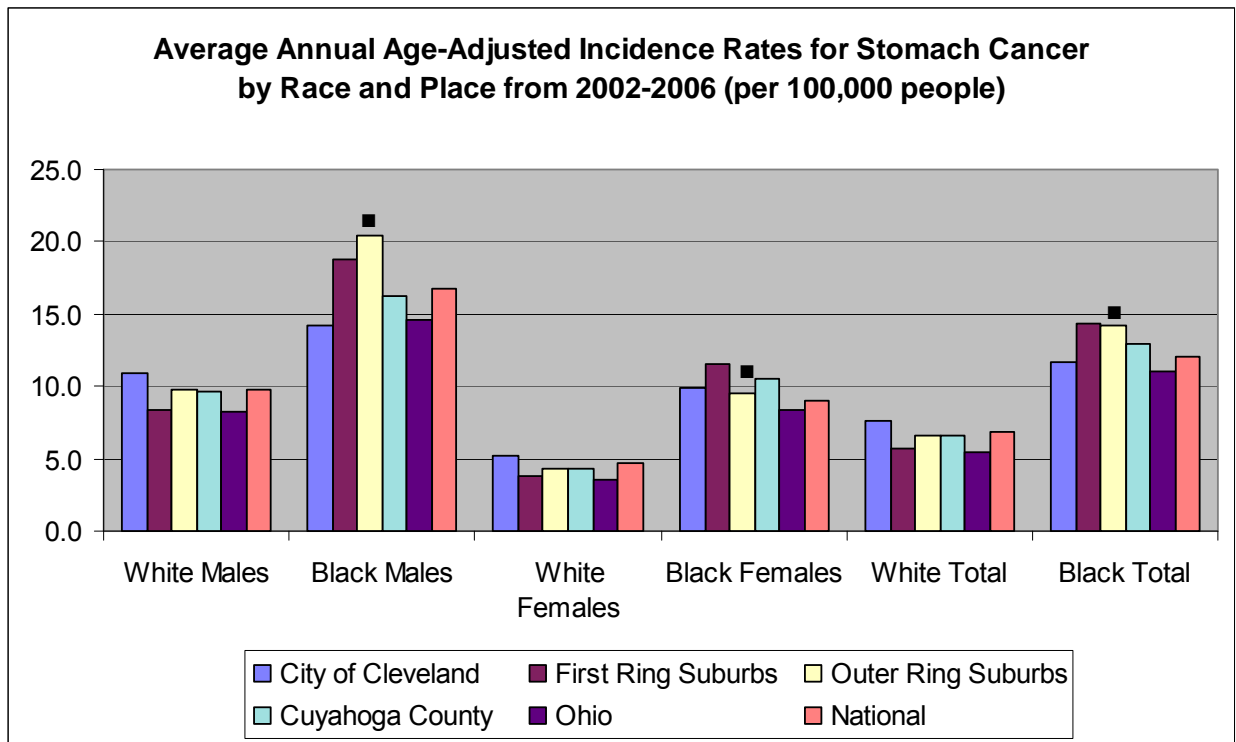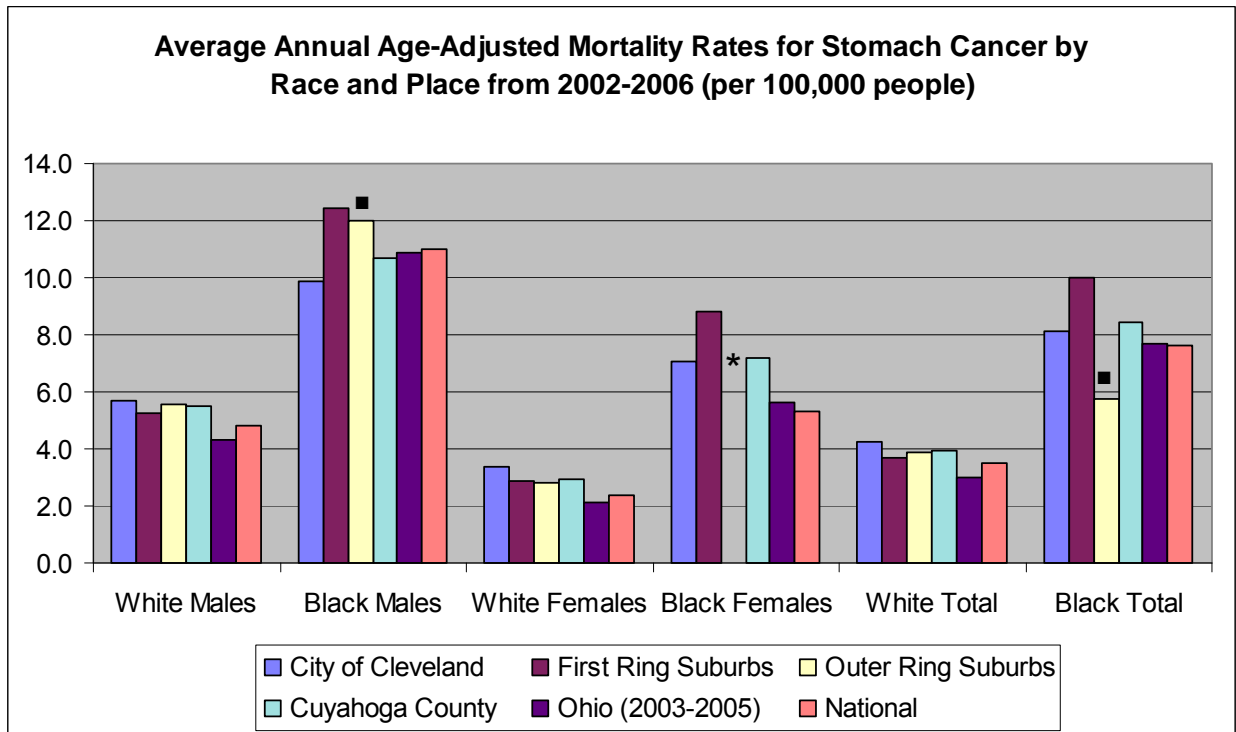
Chart 22a

Average Annual Age-Adjusted Incidence Rates for Stomach Cancer by Race and Place from 2002-2006 (per 100,000 people)

Legend: City of Cleveland, First Ring Suburbs, Outer Ring Suburbs, Cuyahoga County, Ohio, National

Categories: White Males, Black Males, White Females, Black Females, White Total, Black Total

Chart 22b

Average Annual Age-Adjusted Mortality Rates for Stomach Cancer by Race and Place from 2002-2006 (per 100,000 people)

Legend: City of Cleveland, First Ring Suburbs, Outer Ring Suburbs, Cuyahoga County, Ohio (2003-2005), National

Categories: White Males, Black Males, White Females, Black Females, White Total, Black Total

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

Risk Factors

Males: In the United States, 1 in 91 males will <u>develop</u> stomach cancer and 1 in189 males will <u>die</u> from stomach cancer.[3]

Females: In the United States, 1 in 149 females will <u>develop</u> stomach cancer and 1 in 286 females will <u>die</u> from stomach cancer.[3]

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

- *Helicobacter pylori* **infection**
- **Stomach lymphoma**
- **Gender-** Men have a higher risk of developing stomach cancer than women.
- **Age-** Stomach cancer generally occurs in people who are diagnosed in their late 60s, 70s, or 80s.
- **Ethnicity-** Stomach cancer is more common in Hispanic Americans and African Americans than in non-Hispanic whites.
- **Diet-** An increased risk of stomach cancer is seen in individuals whose diets contain large amounts of smoked foods, salted fish and meat, and pickled vegetables.
- **Tobacco use**
- **Obesity**
- **Previous stomach surgery**
- **Pernicious anemia**
- **Menetrier disease (hypertrophic gastropathy)**
- **Type A blood**
- **Inherited cancer syndromes**
    - Hereditary diffuse gastric cancer
    - Hereditary non-polyposis colorectal cancer
    - Familial adenomatous polyposis
    - BRCA1 and BRCA2
- **Family history of stomach cancer**
- **Some types of stomach polyps-** Adenomas may sometimes develop into stomach cancer.
- **Epstein-Barr virus infection**
- **Certain occupations-** Working in coal, metal, and rubber industries may contribute to increased risk of developing stomach cancer.

Symptoms[4]

- Discomfort or pain in the stomach region
- Difficulty swallowing
- Nausea and vomiting
- Weight loss
- Feeling full or bloated after a small meal
- Vomiting blood
- Blood in stool

Screening, Prevention and Early Detection

<u>Screening:</u> [1]

Currently, there is no standard or routine screening test for stomach cancer. Consulting a physician to discuss risk factors and the risk or benefit of stomach cancer screening is recommended.

<u>Prevention:</u> [1]

Stomach cancer may be preventable even though the exact cause is unknown. The American Cancer Society attributes the decline of stomach cancer to the reduction of many known dietary risk factors.

Avoiding foods that are smoked, pickled, or salted and choosing more fresh fruits and vegetables, especially citrus fruits, may help reduce risk. The American Cancer Society recommends eating at least five servings of fruits and vegetables per day, along with whole grains, and limiting processed and red meats. Maintaining a healthy weight and avoiding obesity is another way to lower the risk of stomach cancer. Tobacco use should be avoided, as well.

It has also been found that using aspirin and other non-steroidal anti-inflammatory drugs (NSAIDs) seems to lower stomach cancer risk by 25%. However, these drugs have serious health effects in certain individuals. Physicians can better determine whether the use of NSAIDs would be beneficial or harmful on a patient-by-patient basis.

Lastly, people with a strong family history of stomach cancer should consult a physician to determine if there is a need for genetic testing. Those with hereditary diffuse gastric cancer in their family history have a very high risk for developing stomach 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.[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.
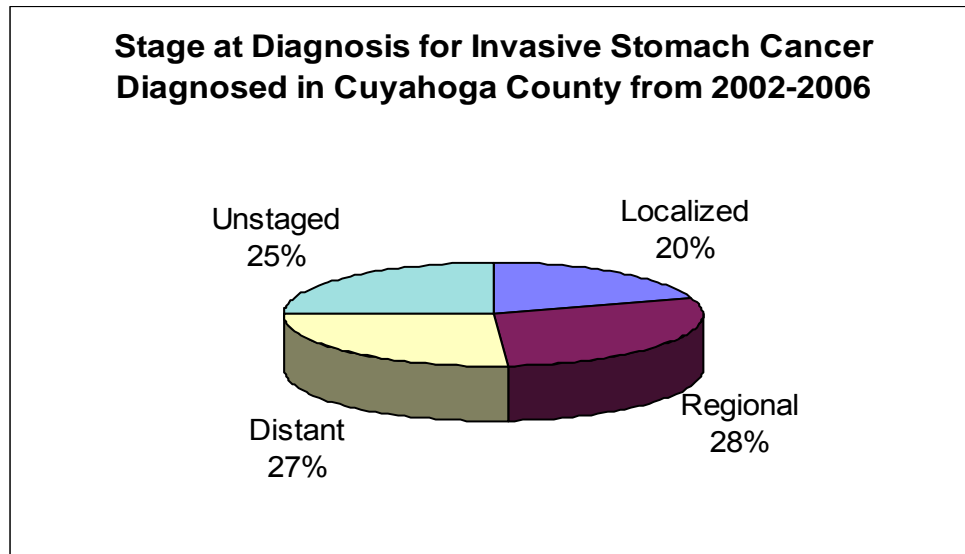
Chart 22c

**Stage at Diagnosis for Invasive Stomach Cancer
Diagnosed in Cuyahoga County from 2002-2006**

Unstaged
25%

Localized
20%

Regional
28%

Distant
27%

Table 22c

5-year Relative Survival* by Stage at Diagnosis for Stomach 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)	62.5
Regional (spread to regional lymph nodes)	27.0
Distant (cancer has metastasized)	3.4
Unknown/Unstaged	17.3

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

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. Stomach Cancer Detailed Guide.
   http://www.cancer.org/cancer/stomachcancer/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 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. National Cancer Institute. What you need to know about stomach cancer. http://www.cancer.gov/cancertopics/wyntk/stomach. (Accessed December 27, 2010).
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: Stomach http://seer.cancer.gov/statfacts/html/stomach.html. (Accessed December 27, 2010).
7. National Cancer Institute. What you need to know about stomach cancer. Stomach images from http://www.cancer.gov/cancertopics/wyntk/stomach/page2. (Accessed December 27, 2010).

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