

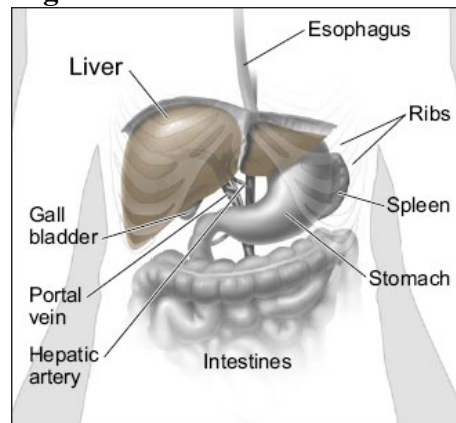
Liver and Intrahepatic Bile Duct Cancer

Definition: Liver cancer begins in the cells of the liver, and because the liver is made up of many types of cells, various tumors can form.¹ The tumors can be benign (non-cancerous) or malignant (cancerous), with each tumor having a different treatment and prognosis.¹

Background: From 2002 to 2006, there was a yearly average of approximately **533** newly diagnosed cases of liver and intrahepatic (within the liver) bile duct cancer in Ohio.² During this same time period, Ohio experienced approximately **541** deaths each year due to liver and intrahepatic bile duct cancer.²

The main cause of liver cancer is infection with Hepatitis B virus or Hepatitis C virus.³ These viruses are transmitted through blood and body fluids.³ There is a vaccine available for Hepatitis B, however there is currently **not** a vaccine available for Hepatitis C.³

Figure 13



Cuyahoga County Data:

- The average annual number of newly diagnosed liver and intrahepatic bile duct cancer cases from 2002-2006 was **87**, with an age-adjusted incidence rate of **5.6** per 100,000 people.
- This is **higher** than the **4.3** incidence rate for Ohio and **lower** than the **6.6** incidence rate for the Nation.
- The average annual number of liver and intrahepatic bile duct cancer deaths from 2002-2006 was **88**, with an age-adjusted mortality rate of **5.5** per 100,000 people.
- This is **higher** than the **4.4** mortality rate for Ohio and **higher** than the **5.1** mortality rate for the Nation.

Table 13a Liver and Intrahepatic Bile Duct 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	61	9.3	25	2.7	87	5.6
Ohio	359	6.6	174	2.5	533	4.3
National SEER		10.2		3.6		6.6

* Rate is calculated per 100,000 people.

Table 13b Liver and Intrahepatic Bile Duct 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	56	8.5	32	3.1	88	5.5
Ohio	342	6.4	199	2.7	541	4.4
National SEER		7.5		3.2		5.1

* Rate is calculated per 100,000 people.

Figure 13a

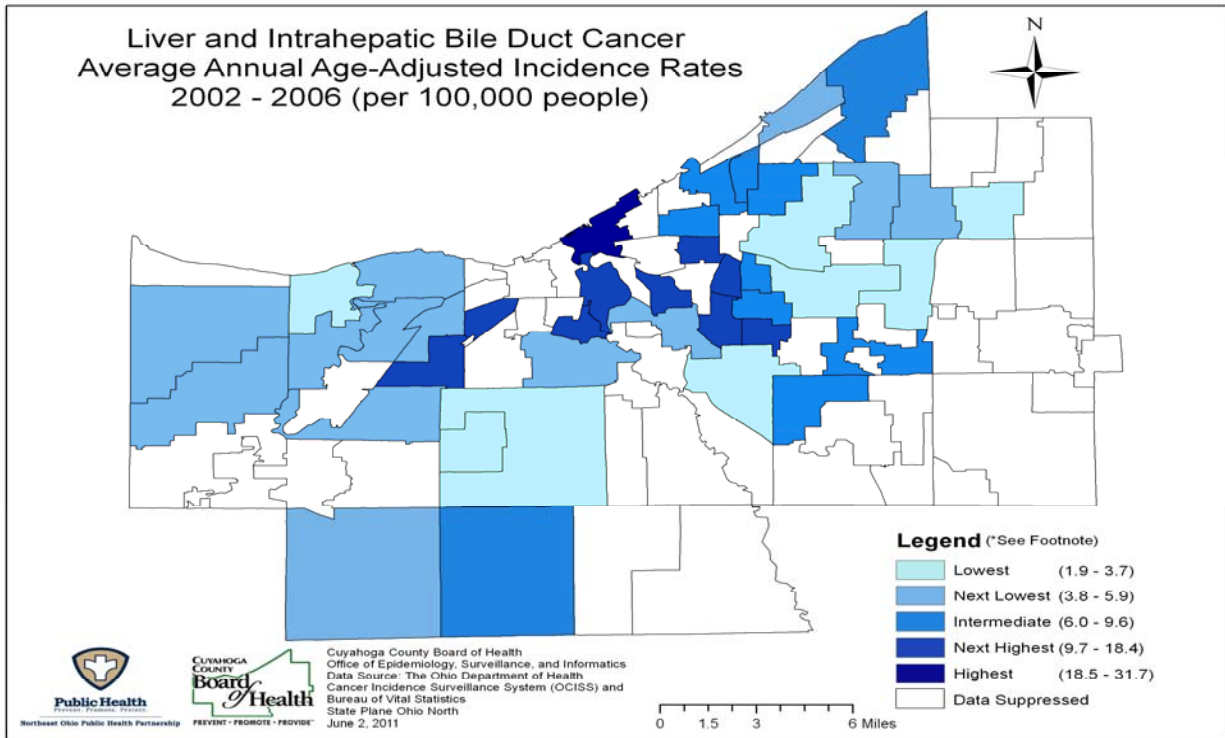
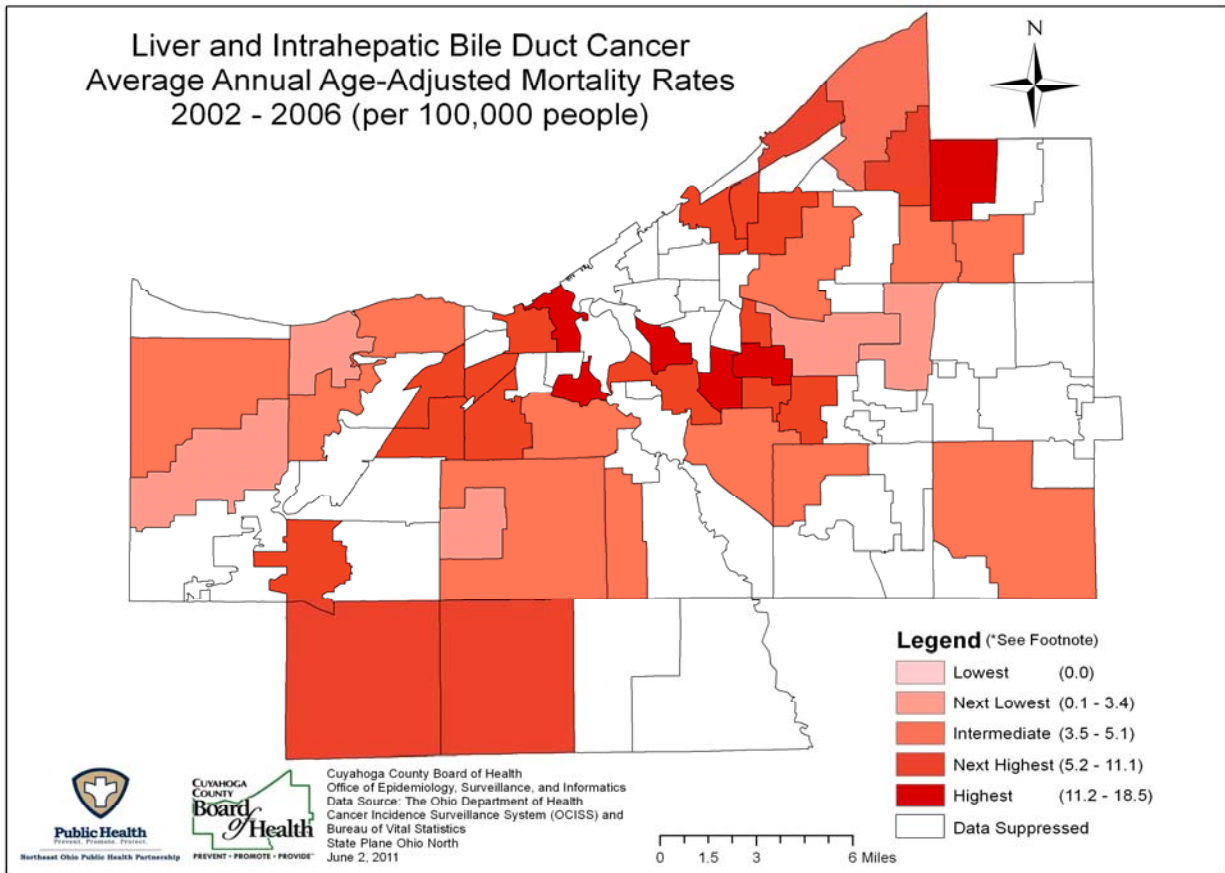


Figure 13b



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

Chart 13a

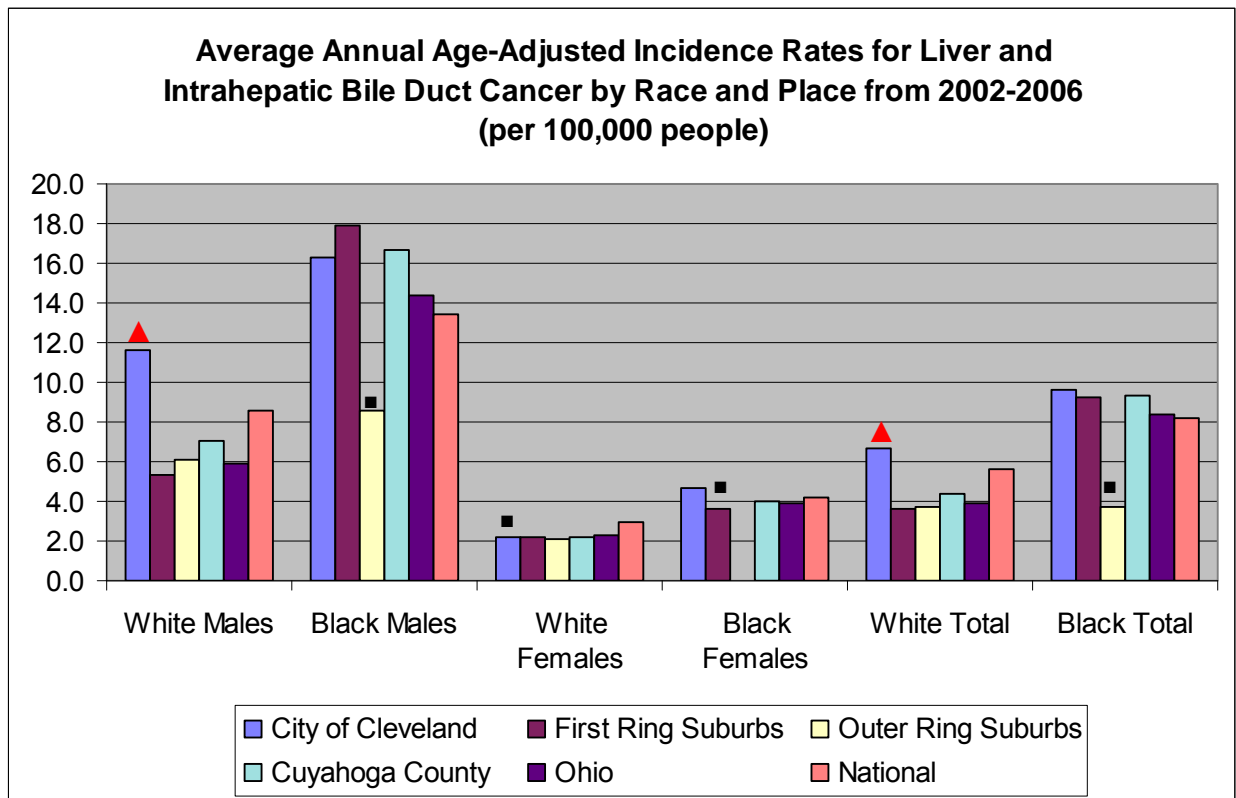
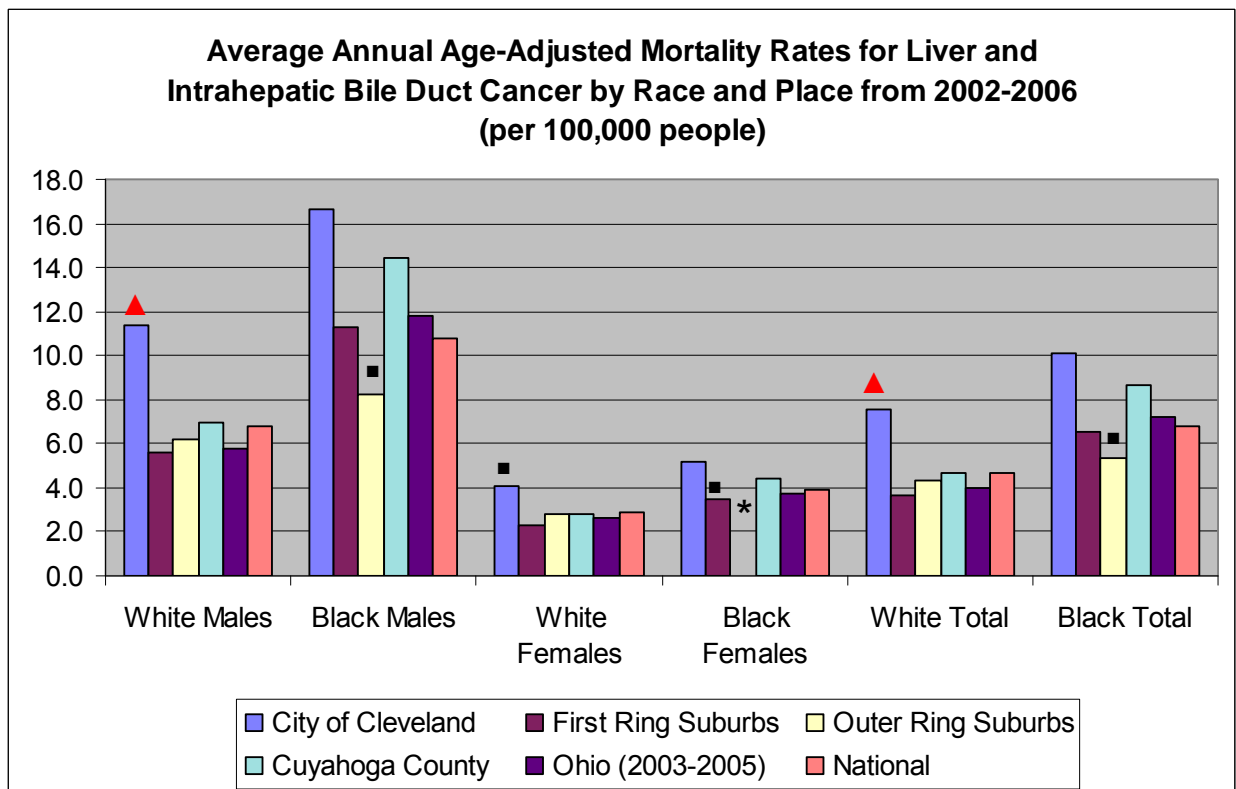


Chart 13b



▲ 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 94 males will develop liver and intrahepatic bile duct cancer and 1 in 130 males will die from liver and intrahepatic bile duct cancer.⁴

Females: In the United States, 1 in 213 females will develop liver and intrahepatic bile duct cancer and 1 in 238 females will die from liver and intrahepatic bile duct cancer.⁴

Several risk factors may contribute to the development of liver and intrahepatic bile duct cancer. They include:^{1,3}

- **Gender-** Males have a higher risk of liver and intrahepatic bile duct cancer than females.
- **Race-** Asian Americans and Pacific Islanders have the highest rates, followed by American Indians, Hispanic/Latinos, African Americans, and whites.
- **Infection with hepatitis B virus or hepatitis C virus**
- **Heavy alcohol use**
- **Aflatoxin-** a harmful substance made by certain types of mold
- **Iron storage disease**
- **Cirrhosis**
- **Obesity and diabetes**
- **Anabolic steroids**
- **Arsenic**

Symptoms³

- Pain in the upper abdomen on the right side
- A lump or heaviness in the upper abdomen
- Swollen abdomen
- Loss of appetite, feeling full
- Weight Loss
- Weakness
- Fatigue
- Nausea and vomiting
- Jaundice causing yellow skin and eyes, pale stools, and dark urine
- Fever

Screening, Prevention and Early Detection¹

Screening:

Signs and symptoms of liver cancer usually do not appear until later stages, therefore it is rarely diagnosed early. Liver cancer screening is recommended every 6 months for patients with known cirrhosis or who are at high risk for liver cancer. The screening includes an alpha-fetoprotein blood test and ultrasound. Alpha-fetoprotein is a protein that may be increased in the blood under the stimulus of some diseases of the liver. Screening is not recommended for people who are **not** at increased risk for liver cancer.

Prevention:

There are several ways to reduce the risk factor for liver cancer, which includes reducing exposure to known risk factors. Because the biggest risk factor for liver cancer is hepatitis B or C, the American Cancer Society recommends getting vaccinated for hepatitis B and avoiding infection with hepatitis C. Limiting alcohol and tobacco use are also ways to reduce liver cancer 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 13c

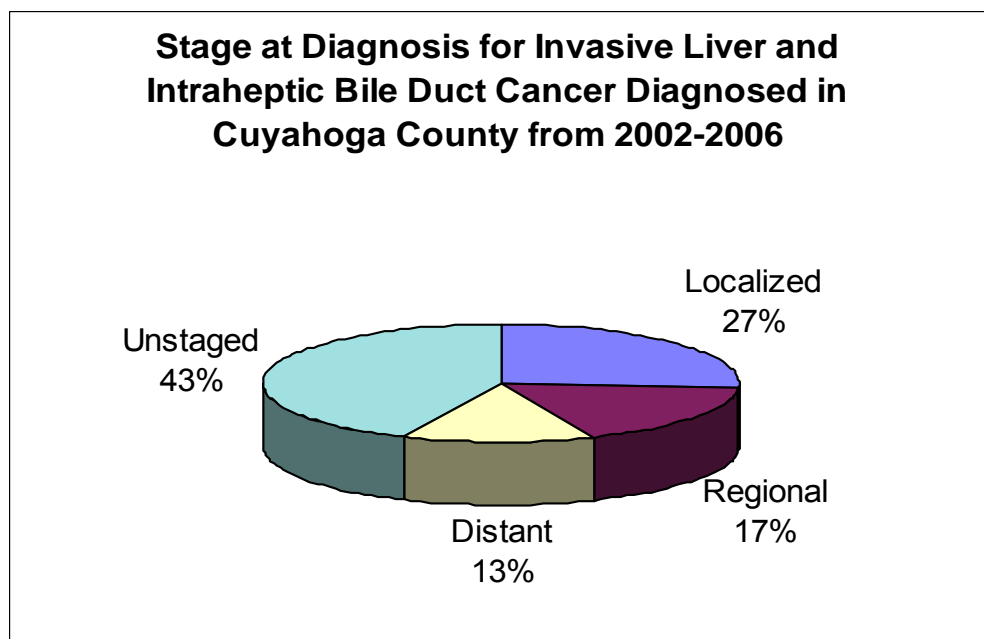


Table 13c

5-year Relative Survival* by Stage at Diagnosis for Liver and Intrahepatic Bile Duct Cancer in the United States for 1999-2006, All Races, Both Sexes⁵	
Stage at Diagnosis	5-year Relative Survival (%)
Localized (confined to primary site)	26.4
Regional (spread to regional lymph nodes)	9.0
Distant (cancer has metastasized)	2.5
Unknown/Unstaged	6.1

*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. Liver Cancer Detailed Guide. <http://www.cancer.org/Cancer/LiverCancer/DetailedGuide/index>. (Accessed December 12, 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. National Cancer Institute. What you need to know about liver cancer. <http://www.cancer.gov/cancertopics/wyntk/liver/page5>. (Accessed December 12, 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. Cancer Staging. <http://www.cancer.gov/cancertopics/factsheet/Detection/staging>. (Accessed December 23, 2010).
6. Surveillance Epidemiology and End Results. SEER Stat Fact Sheets: Liver and Intrahepatic Bile Duct. <http://seer.cancer.gov/statfacts/html/livibd.html>. (Accessed December 12, 2010).
7. National Cancer Institute. What you need to know about liver cancer. Liver image from <http://www.cancer.gov/cancertopics/wyntk/liver/page2>. (Accessed December 12, 2010).