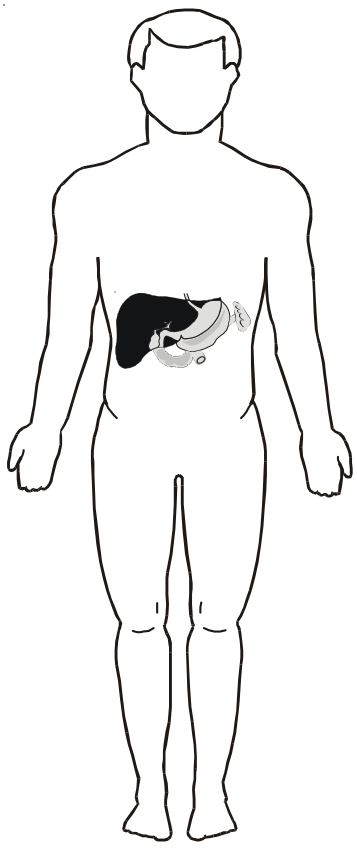


Chapter 12

Cancer of the Liver & Intrahepatic Bile Duct

Cancer of the Liver & Intrahepatic Bile Duct

Incidence and Mortality by Sex and Year

West Virginia Residents 1993 – 2001

	Male				Female				Total			
Year	New Cases	Incid. Rate	Deaths	Mort. Rate	New Cases	Incid. Rate	Deaths	Mort. Rate	New Cases	Incid. Rate	Deaths	Mort. Rate
1993	26	3.1	35	4.3	26	2.2	41	3.3	52	2.6	76	3.7
1994	36	4.1	48	5.5	35	3.0	36	2.9	71	3.5	84	4.1
1995	42	4.5	44	4.8	33	2.7	36	2.9	75	3.6	80	3.8
1996	46	5.4	41	4.8	33	2.8	40	3.3	79	3.9	81	3.9
1997	63	7.3	57	6.7	32	2.6	29	2.4	95	4.6	86	4.2
1998	58	6.4	52	5.6	34	2.8	42	3.5	92	4.4	94	4.4
1999	48	5.5	45	4.9	32	2.5	29	2.3	80	3.8	74	3.5
2000	55	6.0	55	6.1	26	2.1	39	3.0	81	3.8	94	4.4
2001	50	5.4	49	5.4	28	2.3	30	2.4	78	3.6	79	3.7

Number of new cases excludes in situ cases.
Rates are per 100,000 West Virginia residents and are age-adjusted to the 2000 U.S. standard population.

Table 12.1

Overview

- While cancer of the liver and intrahepatic bile duct occurred in all age groups in 1997-2001, incidence tended to increase with age. The highest average annual age-specific incidence (20.6 per 100,000) occurred among West Virginians 65 years of age and older (Figure 12.3).

- The average annual age-adjusted incidence rate in men (6.1 per 100,000) is more than twice that seen in women (2.5 per 100,000) (Figures 1.3 and 1.4).

Risk Factors

- Chronic infection with certain types of viral hepatitis, including hepatitis B and C, is a very important risk factor for liver cancer. Cirrhosis, which can occur as a result of alcohol abuse or as a result of infection with hepatitis B and C, can also increase risk of liver cancer.

- Long-term exposure to aflatoxin, a fungus occurring in tropical and subtropical regions that can contaminate peanuts, wheat, soybeans, ground nuts, corn, and rice, increases risk of liver cancer.

- Exposure to vinyl chloride and thorium dioxide can increase risk of liver cancer. However, exposure of U.S. workers to vinyl chloride is now strictly regulated, and thorium dioxide is no longer used.

- Long-term use of anabolic steroids (male hormones used by some athletes to increase strength) can increase risk of liver cancer.

Prevention

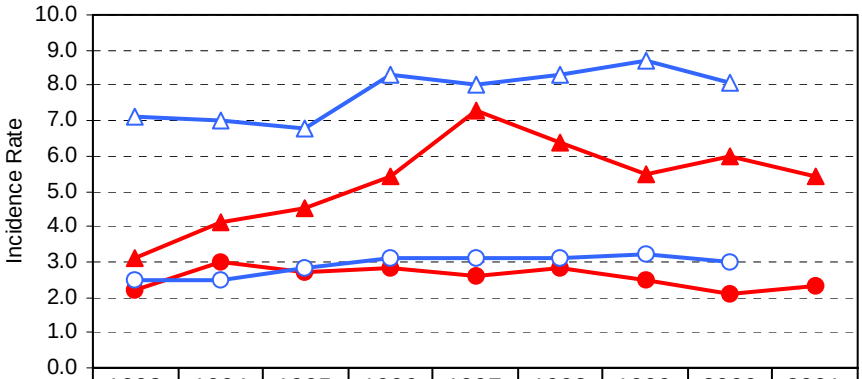
- Worldwide, infection with hepatitis B virus (HBV) and hepatitis C virus (HCV) is the most significant risk factor for liver cancer. Thus, public health measures aimed at reducing infection with HBV and HCV will help reduce liver cancer. Although there is a vaccine for HBV, there is not a vaccine at this time for HCV.

- Prevention of liver cancers associated with alcoholic cirrhosis remains challenging.

Cancer of the Liver & Intrahepatic Bile Duct

Incidence Rates*, Age-Adjusted

West Virginia Residents 1993 - 2001, U.S. Residents 1993 - 2000



	1993	1994	1995	1996	1997	1998	1999	2000	2001
WV Males	3.1	4.1	4.5	5.4	7.3	6.4	5.5	6.0	5.4
US Males	7.1	7.0	6.8	8.3	8.0	8.3	8.7	8.1	
WV Females	2.2	3.0	2.7	2.8	2.6	2.8	2.5	2.1	2.3
US Females	2.5	2.5	2.8	3.1	3.1	3.1	3.2	3.0	

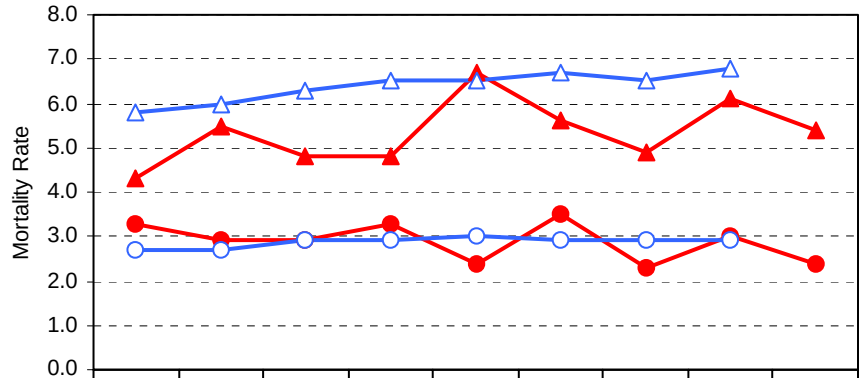
Figure 12.1

*Rates are per 100,000 and are age-adjusted to the 2000 U.S. standard population.
U.S. rates are from SEER (Ries et al., 2003).

Cancer of the Liver & Intrahepatic Bile Duct

Mortality Rates*, Age-Adjusted

West Virginia Residents 1993 - 2001, U.S. Residents 1993 - 2000



	1993	1994	1995	1996	1997	1998	1999	2000	2001
WV Males	4.3	5.5	4.8	4.8	6.7	5.6	4.9	6.1	5.4
US Males	5.8	6.0	6.3	6.5	6.5	6.7	6.5	6.8	
WV Females	3.3	2.9	2.9	3.3	2.4	3.5	2.3	3.0	2.4
US Females	2.7	2.7	2.9	2.9	3.0	2.9	2.9	2.9	

Figure 12.2

*Rates are per 100,000 and are age-adjusted to the 2000 U.S. standard population.
U.S. rates are from SEER (Ries et al., 2003).

Cancer of the Liver & Intrahepatic Bile Duct

Incidence Rates*, Age-Specific

West Virginia Residents 1997 - 2001

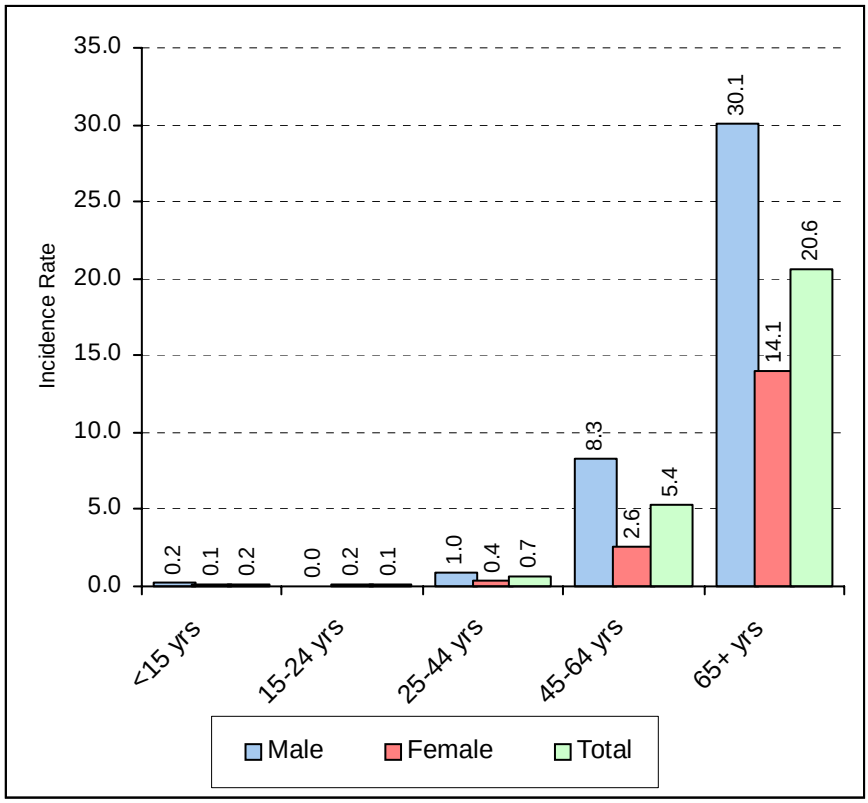


Figure 12.3

*Five-year average annual rate per 100,000 West Virginia residents

Cancer of the Liver & Intrahepatic Bile Duct

Most Frequent Histologies

West Virginia Residents 1997 - 2001

ICD-O Code	Histology	% of Invasive Cases
8170	Hepatocellular Carcinoma	52.3
8160	Cholangiocarcinoma	19.5
8000	Malignant Neoplasm	7.5
8140	Adenocarcinoma	6.1
8010	Carcinoma	5.6
8162	Klatskin's Tumor	2.1
8180	Combined Hepatocellular Carcinoma and Cholangiocarcinoma	1.4
8970	Hepatoblastoma	1.2

Table 12.2

Cancer of the Liver & Intrahepatic Bile Duct

Stage of Disease at Diagnosis

West Virginia Residents 1997 - 2001

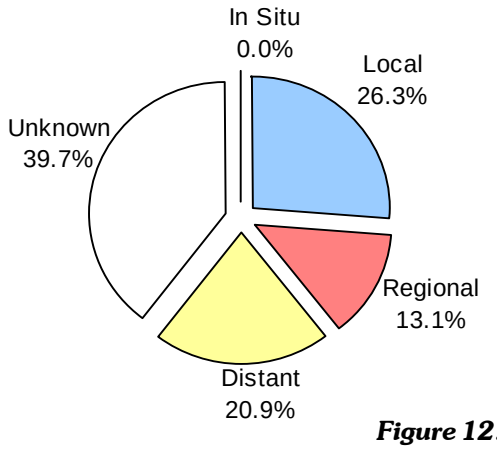
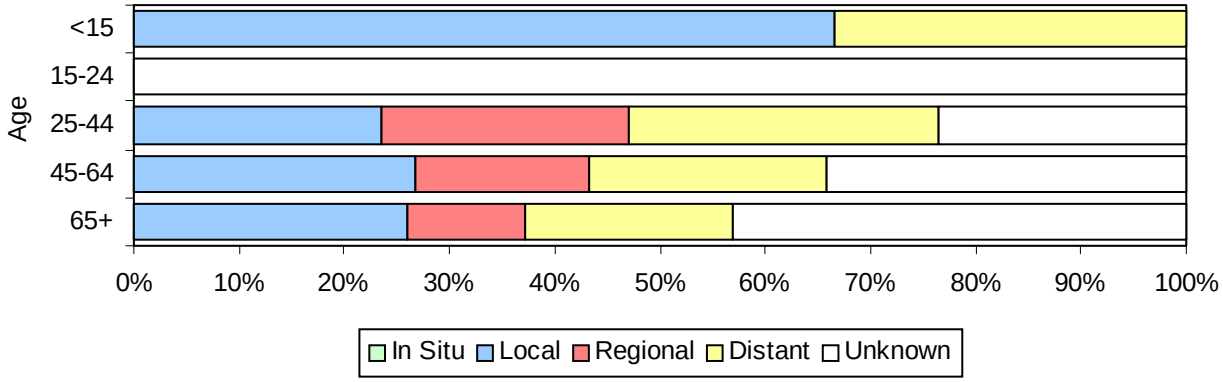


Figure 12.4

Cancer of the Liver & Intrahepatic Bile Duct

Stage of Disease at Diagnosis by Age

West Virginia Residents 1997 - 2001



Age	In Situ #	In Situ %	Local #	Local %	Regional #	Regional %	Distant #	Distant %	Unknown #	Unknown %	Total #	Total %
<15	0	0.0%	~		0	0.0%	~		0	0.0%	~	100.0%
15-24	0	0.0%	0	0.0%	0	0.0%	0	0.0%	~		~	100.0%
25-44	0	0.0%	~		4	23.5%	~		~		17	100.0%
45-64	0	0.0%	32	26.7%	20	16.7%	27	22.5%	41	34.2%	120	100.0%
65+	0	0.0%	74	26.0%	32	11.2%	56	19.6%	123	43.2%	285	100.0%
Total	0	0.0%	112	26.3%	56	13.1%	89	20.9%	169	39.7%	426	100.0%

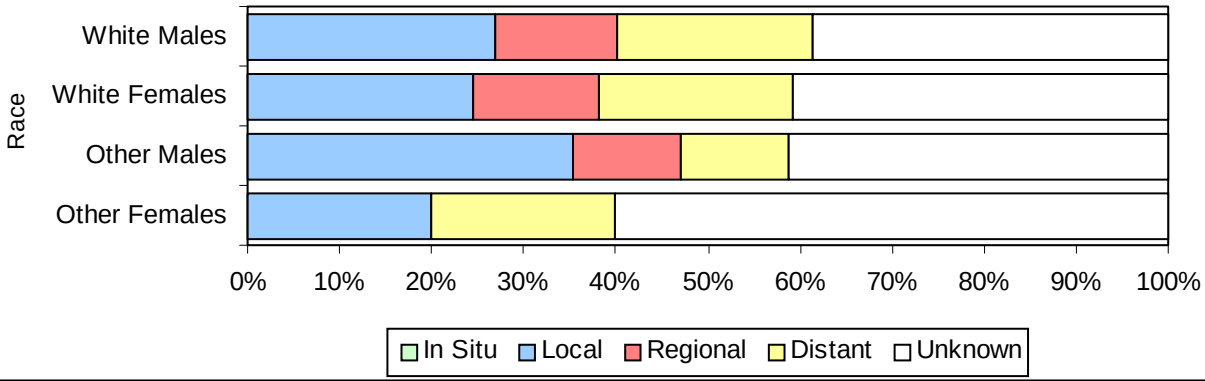
~ Suppressed due to small cell size
Total may not add to 100% due to rounding.

Figure 12.5

Cancer of the Liver & Intrahepatic Bile Duct

Stage of Disease at Diagnosis by Race and Sex

West Virginia Residents 1997 - 2001



Race/Sex	In Situ #	In Situ %	Local #	Local %	Regional #	Regional %	Distant #	Distant %	Unknown #	Unknown %	Total #	Total %
White Males	0	0.0%	69	26.8%	34	13.2%	55	21.4%	99	38.5%	257	100.0%
White Females	0	0.0%	36	24.5%	20	13.6%	31	21.1%	60	40.8%	147	100.0%
Other Males	0	0.0%	~		~		~		~		17	100.0%
Other Females	0	0.0%	~		~		~		~		5	100.0%
Total	0	0.0%	112	26.3%	56	13.1%	89	20.9%	169	39.7%	426	100.0%

~ Suppressed due to small cell size
Total may not add to 100% due to rounding.

Figure 12.6