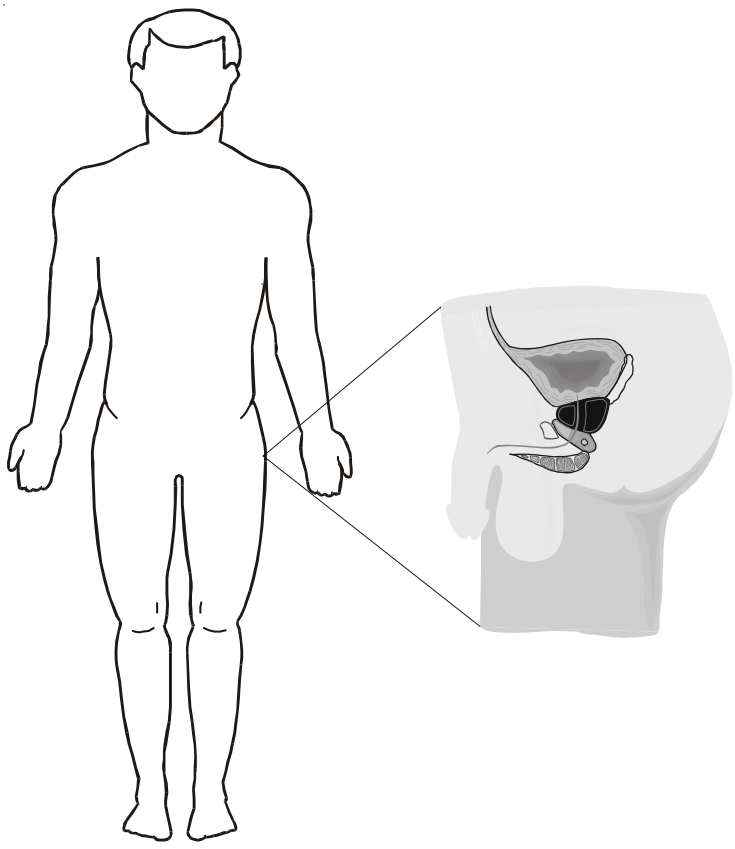
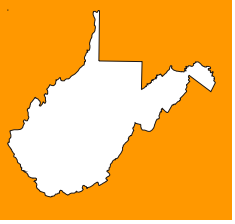
Cancer of the Prostate





Chapter 20

Cancer of the Prostate

Incidence and Mortality by Year

West Virginia Males 1993 – 2001

	Male			
Year	New Cases	Incid. Rate	Deaths	Mort. Rate
1993	1,297	152.4	281	38.3
1994	1,265	146.5	288	38.4
1995	1,129	129.4	288	37.5
1996	1,194	134.2	244	31.6
1997	1,241	138.0	231	30.1
1998	1,329	147.0	235	30.3
1999	1,341	146.3	217	27.9
2000	1,485	160.3	244	31.0
2001	1,448	154.5	206	26.7

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

Table 20.1

Overview

- Cancer of the prostate was the most commonly diagnosed cancer in West Virginia men during 1997-2001 (Figure 1.3).
- Cancer of the prostate very rarely occurred before the age of 45 and the incidence dramatically increased with age. Nearly three-quarters of prostate cancer was diagnosed in men age 65 and older (Figure 20.5).
- During 1997-2001 in West Virginia, 73% of men with prostate cancer were diagnosed with early (in situ or local) disease. Stage at diagnosis was not reported in 15% of cases (Figure 20.4).
- Cancer of the prostate in West Virginia was the second leading cause of cancer-related mortality in men during 1997-2001 (Figure 1.3). It accounted for approximately one in ten male cancer deaths (Tables 1.1 and 20.1).

Risk Factors

- Age is the most significant risk factor.
- Race is also prominent as a risk factor. Black Americans have the highest prostate cancer incidence in the world. The disease is rare in Asia, Africa, Central America, and South America (ACS, 2003a).
- Having a father or brother with prostate cancer doubles a man's risk for this disease.
- Dietary fat may also be a risk factor (ACS, 2003a).

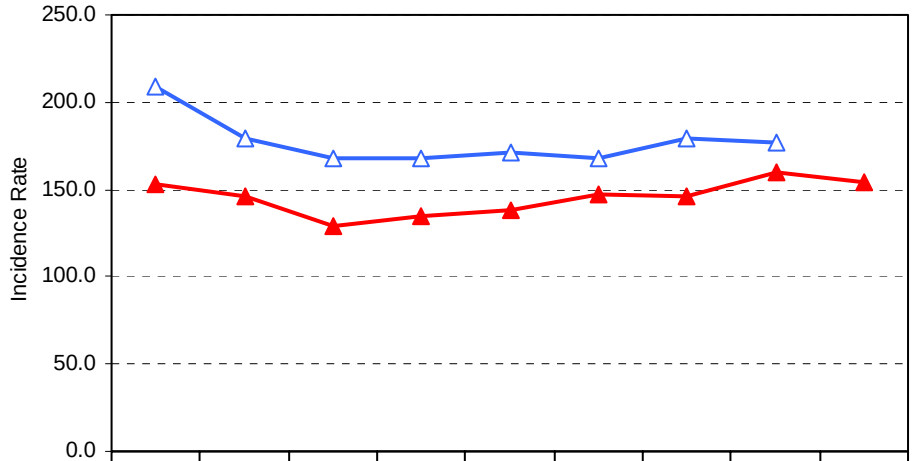
Prevention

- While opinions vary regarding routine screening for prostate cancer, the American Cancer Society suggests that men over the age of 50 discuss an annual digital examination and Prostate Specific Antigen test with a health care professional. African American men and men with a family history of prostate cancer should begin screening at age 45.

Cancer of the Prostate

Incidence Rates*, Age-Adjusted

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



	1993	1994	1995	1996	1997	1998	1999	2000	2001
WV Males	152.4	146.5	129.4	134.2	138.0	147.0	146.3	160.3	154.5
US Males	208.8	179.6	168.1	167.7	171.5	168.2	179.4	176.9	

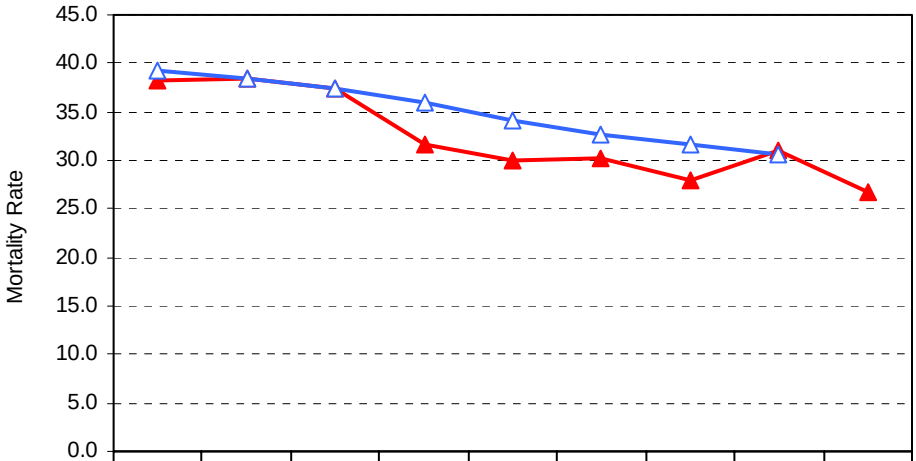
Figure 20.1

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

Cancer of the Prostate

Mortality Rates*, Age-Adjusted

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



	1993	1994	1995	1996	1997	1998	1999	2000	2001
WV Males	38.3	38.4	37.5	31.6	30.1	30.3	27.9	31.0	26.7
US Males	39.3	38.5	37.3	36.0	34.1	32.6	31.6	30.6	

Figure 20.2

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

Cancer of the Prostate

Incidence Rates*, Age-Specific

West Virginia Males 1997 - 2001

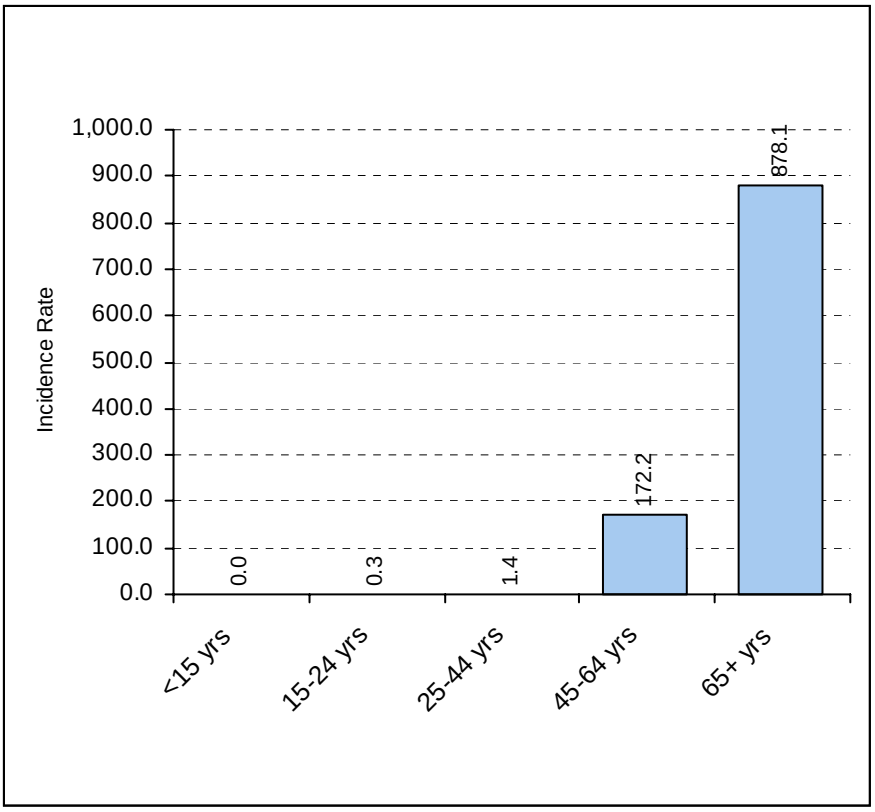


Figure 20.3

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

Cancer of the Prostate

Most Frequent Histologies

West Virginia Males 1997 - 2001

ICD-O Code	Histology	% of Invasive Cases
814	Adenocarcinoma	95.1
801	Carcinoma	2.5
800	Malignant Neoplasm	2.0

Table 20.2

Cancer of the Prostate

Stage of Disease at Diagnosis

West Virginia Males 1997 - 2001

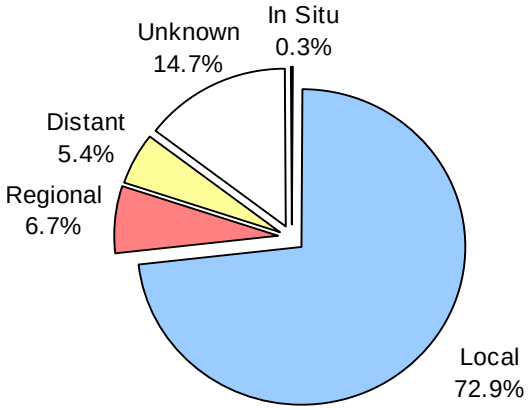
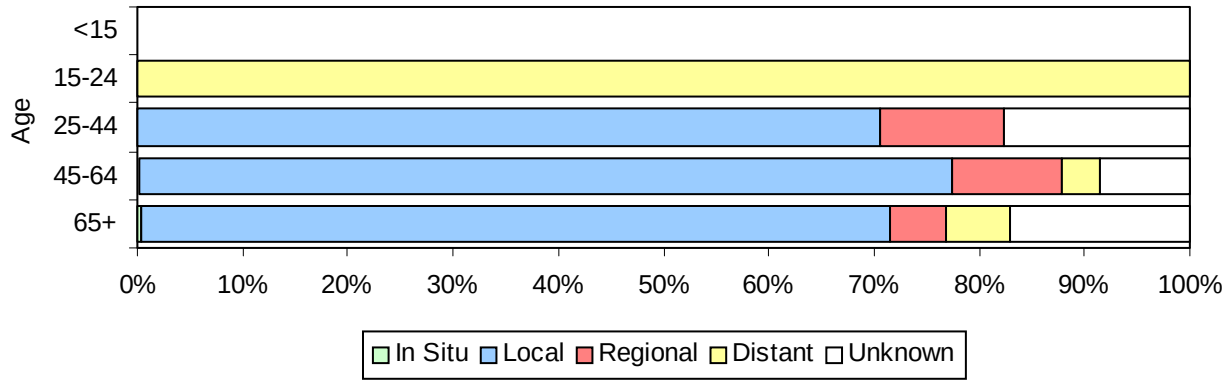


Figure 20.4

Cancer of the Prostate

Stage of Disease at Diagnosis by Age

West Virginia Males 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%	0	0.0%	0	0.0%	0	0.0%
15-24	0	0.0%	0	0.0%	0	0.0%	~		0	0.0%	~	100.0%
25-44	0	0.0%	12	70.6%	~		0	0.0%	~		~	100.0%
45-64	~		1,464	77.2%	~		~		161	8.5%	1,896	100.0%
65+	~		3,527	71.3%	259	5.2%	298	6.0%	~		4,948	100.0%
Total	19	0.3%	5,003	72.9%	461	6.7%	368	5.4%	1,012	14.7%	6,863	100.0%

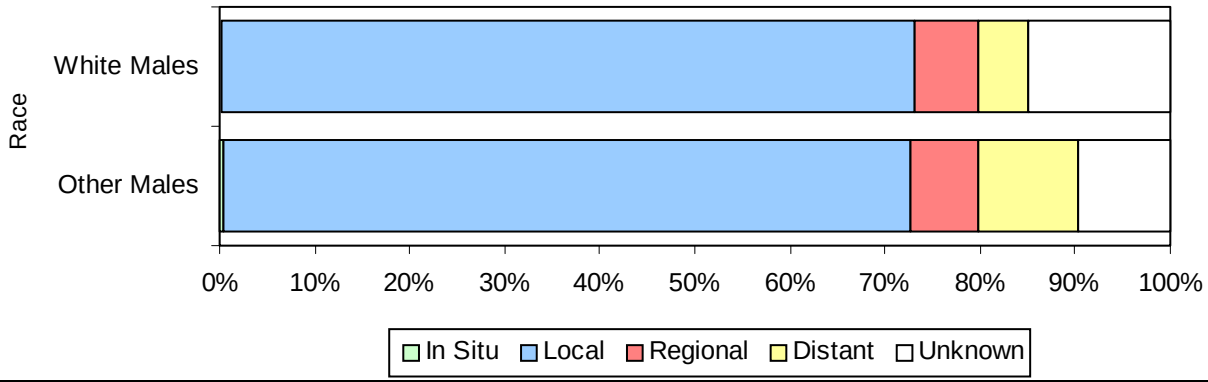
~ Suppressed due to small cell size
Total may not add to 100% due to rounding.

Figure 20.5

Cancer of the Prostate

Stage of Disease at Diagnosis by Race

West Virginia Males 1997 - 2001



Race/Sex	In Situ #	In Situ %	Local #	Local %	Regional #	Regional %	Distant #	Distant %	Unknown #	Unknown %	Total #	Total %
White Males	~		4,816	72.9%	~		341	5.2%	987	14.9%	6,604	100.0%
Other Males	~		187	72.2%	~		27	10.4%	25	9.7%	259	100.0%
Total	19	0.3%	5,003	72.9%	461	6.7%	368	5.4%	1,012	14.7%	6,863	100.0%

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

Figure 20.6

Taking a Closer Look

Q Has the relationship between **race** and **stage at diagnosis** changed over time in West Virginia?

A Although race-based disparities in stage at diagnosis of prostate cancer still exist in West Virginia, they have decreased over time.

Cancer of the Prostate

Average Percentage of Prostate Cancers Diagnosed at Local Stage, West Virginia Males, 1993 – 2001

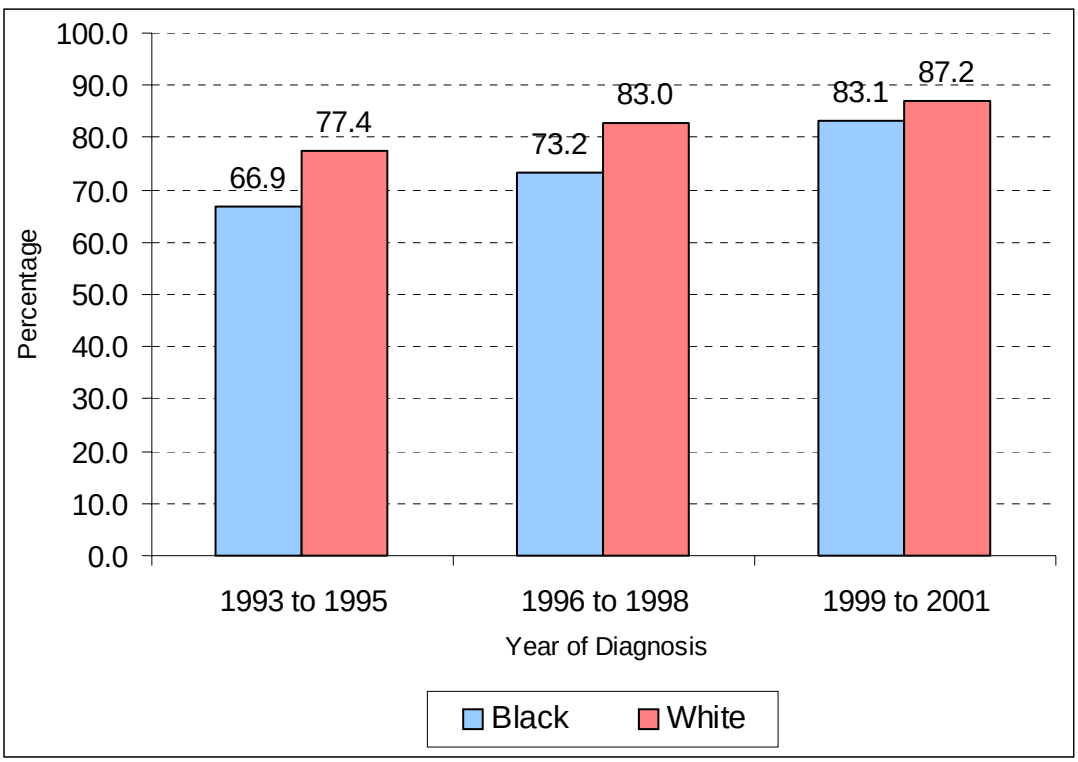
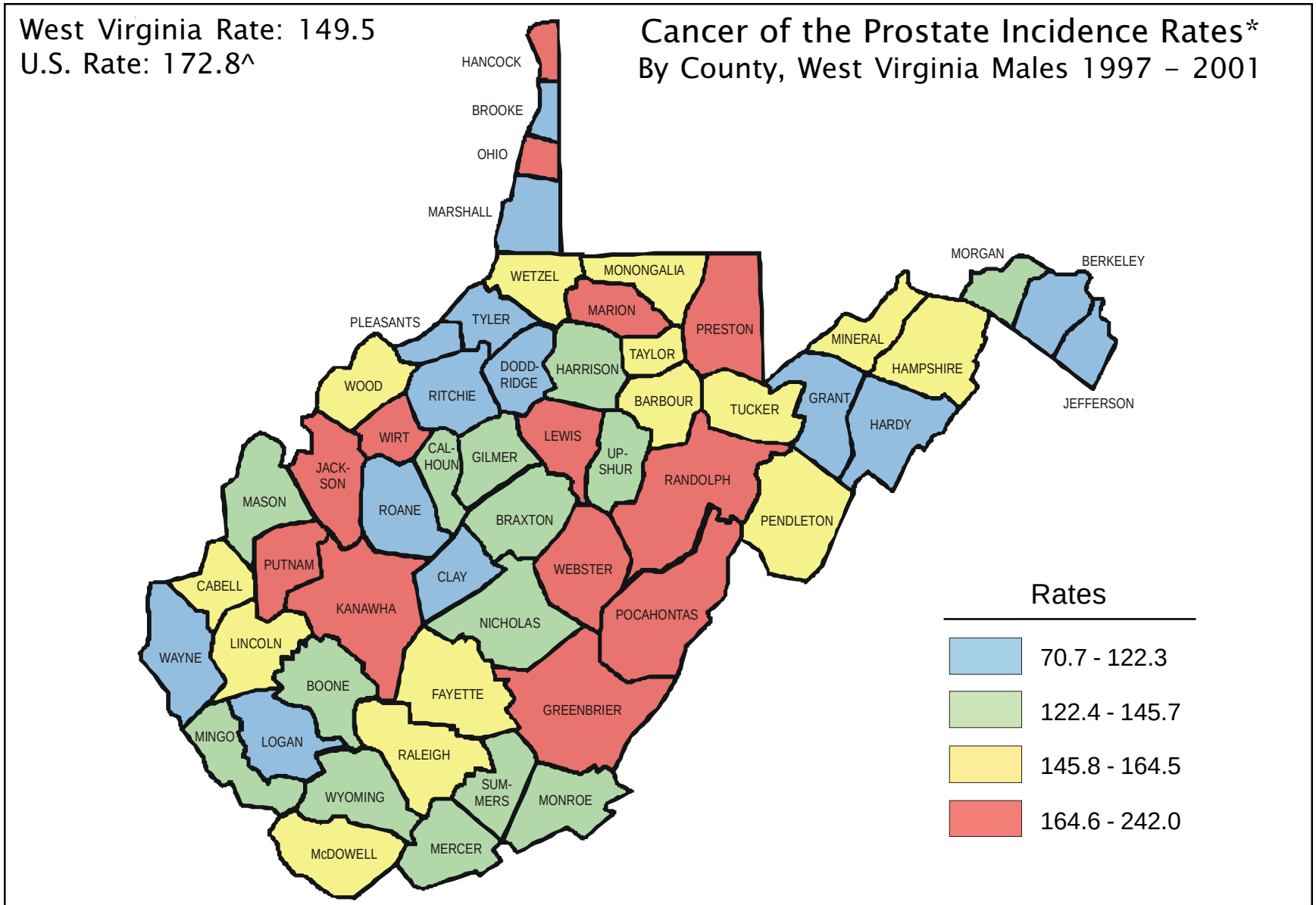
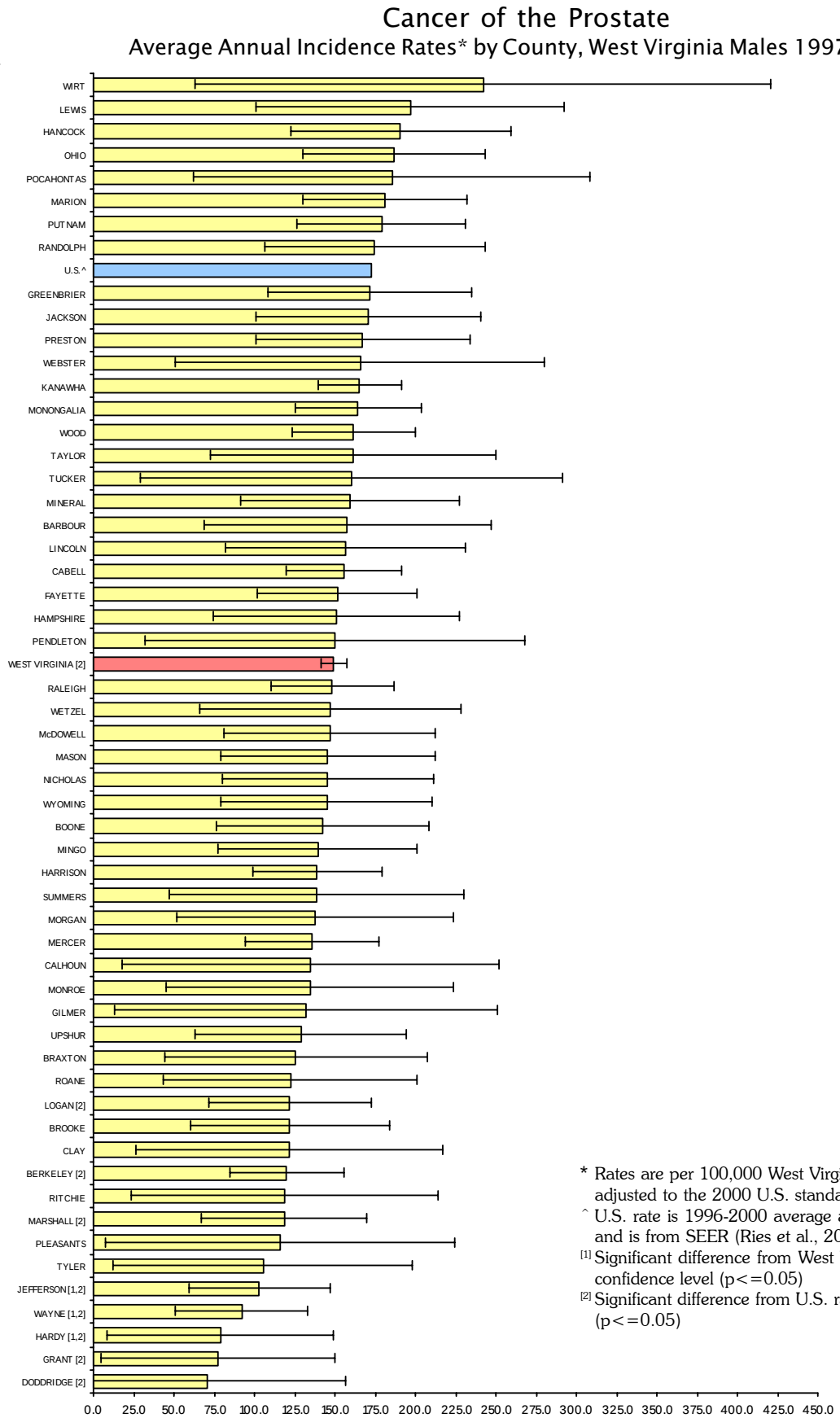


Figure 20.7



* Five-year average annual rate per 100,000 West Virginia males, age-adjusted to the 2000 U.S. standard population.
^ U.S. rate is 1996-2000 average annual age-adjusted rate and is from SEER (Ries et al., 2003).
Refer to Table 20.3 for individual county rates and measures of statistical significance.

Figure 20.8



* Rates are per 100,000 West Virginia males and are age-adjusted to the 2000 U.S. standard population.

^ U.S. rate is 1996-2000 average annual age-adjusted rate and is from SEER (Ries et al., 2003).

[1] Significant difference from West Virginia rate at 95% confidence level (p<=0.05)

[2] Significant difference from U.S. rate at 95% confidence level (p<=0.05)

Figure 20.9

Cancer of the Prostate

Average Annual Incidence Rates* by County, West Virginia Males 1997 - 2001

COUNTY	1997-2001 TOTAL CASES	5-YR AVG. ANN. RATE	Significant Difference+ WV	Significant Difference+ U.S.	COUNTY	1997-2001 TOTAL CASES	5-YR AVG. ANN. RATE	Significant Difference+ WV	Significant Difference+ U.S.
BARBOUR	66	157.8	No	No	MINGO	82	139.3	No	No
BERKELEY	191	120.1	No	**YES**	MONONGALIA	250	164.5	No	No
BOONE	83	142.3	No	No	MONROE	52	134.7	No	No
BRAXTON	49	125.9	No	No	MORGAN	53	138.0	No	No
BROOKE	88	122.1	No	No	NICHOLAS	99	145.5	No	No
CABELL	380	155.3	No	No	OHIO	247	186.8	No	No
CALHOUN	29	134.8	No	No	PENDLETON	39	149.6	No	No
CLAY	31	121.7	No	No	PLEASANTS	22	115.7	No	No
DODDRIDGE	14	70.7	No	**YES**	POCAHONTAS	51	185.6	No	No
FAYETTE	187	151.5	No	No	PRESTON	131	167.2	No	No
GILMER	25	132.3	No	No	PUTNAM	203	179.1	No	No
GRANT	25	77.1	No	**YES**	RALEIGH	284	148.2	No	No
GREENBRIER	169	171.5	No	No	RANDOLPH	128	174.9	No	No
HAMPSHIRE	80	151.3	No	No	RITCHIE	32	119.2	No	No
HANCOCK	190	191.0	No	No	ROANE	48	122.3	No	No
HARDY	26	78.8	**YES**	**YES**	SUMMERS	59	138.9	No	No
HARRISON	250	139.1	No	No	TAYLOR	66	161.2	No	No
JACKSON	124	171.0	No	No	TUCKER	35	160.4	No	No
JEFFERSON	91	103.1	**YES**	**YES**	TYLER	30	105.2	No	No
KANAWHA	857	165.5	No	No	UPSHUR	77	128.8	No	No
LEWIS	89	196.9	No	No	WAYNE	102	92.1	**YES**	**YES**
LINCOLN	80	156.5	No	No	WEBSTER	40	165.9	No	No
LOGAN	107	122.1	No	**YES**	WETZEL	75	147.5	No	No
MARION	281	181.1	No	No	WIRT	33	242.0	No	No
MARSHALL	112	118.6	No	**YES**	WOOD	362	161.5	No	No
MASON	100	145.7	No	No	WYOMING	85	144.9	No	No
McDOWELL	96	146.8	No	No					
MERCER	228	135.6	No	No	WEST VIRGINIA	6,844	149.5		**YES**
MINERAL	111	159.8	No	No	U.S.^		172.8		

Table 20.3

* Rates are per 100,000 West Virginia males and are age-adjusted to the 2000 U.S. standard population.

^ U.S. rate is 1996-2000 average annual age-adjusted rate and is from SEER (Ries et al., 2003).

+ Difference between county rate and West Virginia rate, and county rate and U.S. rate, is tested for statistical significance at the 95% confidence level ($p<=0.05$).