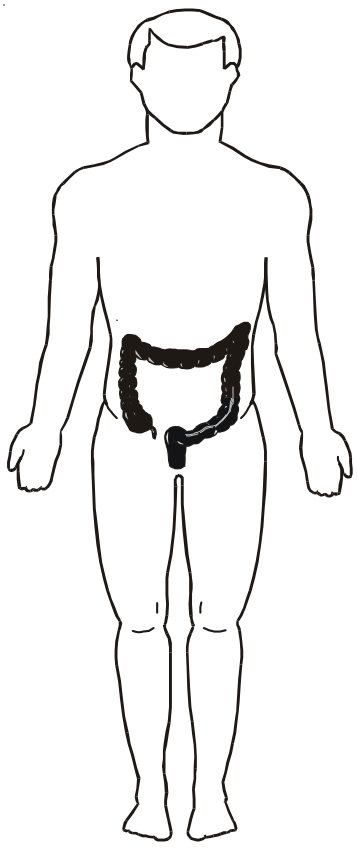
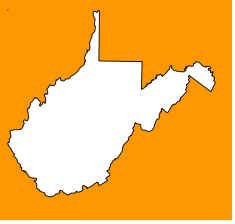
Cancer of the Colon & Rectum





Chapter 5

Cancer of the Colon & Rectum

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	551	65.9	236	29.4	603	50.6	263	21.8	1,154	56.4	499	25.0
1994	550	63.9	242	29.6	604	50.1	249	20.3	1,154	55.8	491	24.1
1995	551	63.6	220	25.5	600	49.9	256	20.9	1,151	55.5	476	23.0
1996	561	65.2	250	29.5	616	51.0	261	21.2	1,177	56.6	511	24.7
1997	618	70.9	221	26.4	689	56.4	283	22.7	1,307	62.5	504	24.3
1998	655	74.4	223	25.7	604	49.0	239	19.5	1,259	59.6	462	22.2
1999	643	73.1	246	29.4	647	52.9	240	19.3	1,290	60.8	486	23.1
2000	651	72.1	211	24.7	643	52.3	243	19.3	1,294	60.6	454	21.4
2001	626	67.9	248	28.9	654	53.0	240	18.9	1,280	59.6	488	23.1

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 5.1

Overview

- During 1997-2001, cancer of the colon and rectum was the third most common primary cancer diagnosed in both West Virginia men and women (Figures 1.3 and 1.4).
- Incidence increased markedly with age. Colorectal cancer was over four times more common among those aged 65+ years compared to individuals aged 45-64 (Figure 5.3).
- Among colorectal cancer cases during 1997-2001, 40% were diagnosed at an in situ or local stage where five-year survival rates are excellent. Thirty-seven percent (37%) were found at a regional stage and 15% at a distant stage. Stage was not reported in 9% of cases (Figure 5.4).
- Cancer of the colon and rectum was the third leading cause of cancer-related mortality among both men and women in West Virginia during 1997-2001 (Figures 1.3 and 1.4). It accounted for about 10% of all cancer-related deaths.

Risk Factors

- A personal or family history of colorectal cancer, certain types of polyps, or inflammatory bowel disease is associated with increased risk.
- A diet high in fat and/or low in fiber, as well as physical inactivity, may be associated with increased risk of this malignancy.
- Recent studies suggest that estrogen replacement therapy and non-steroidal anti-inflammatory drugs such as aspirin may reduce risk.

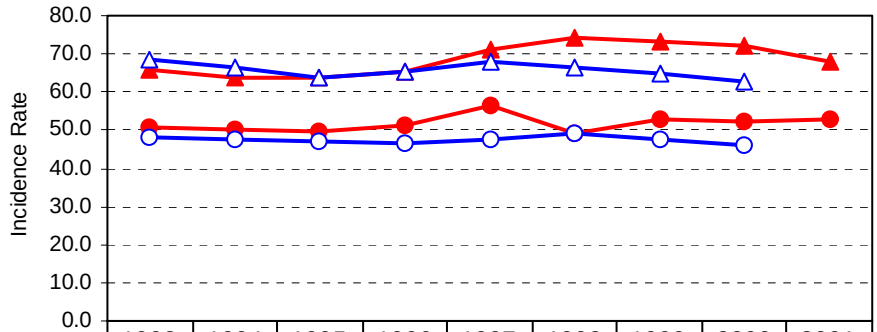
Prevention

- Beginning at age 50, the American Cancer Society recommends an annual fecal occult blood test plus either flexible sigmoidoscopy or other studies on a periodic basis. Although screening for colon cancer is clearly beneficial, studies are still in progress to identify the most practical and effective approach to prevention of this disease.

Cancer of the Colon & Rectum

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	65.9	63.9	63.6	65.2	70.9	74.4	73.1	72.1	67.9
US Males	68.5	66.4	63.6	65.4	67.9	66.6	64.9	62.5	
WV Females	50.6	50.1	49.9	51.0	56.4	49.0	52.9	52.3	53.0
US Females	48.3	47.7	46.9	46.6	47.8	49.1	47.5	45.9	

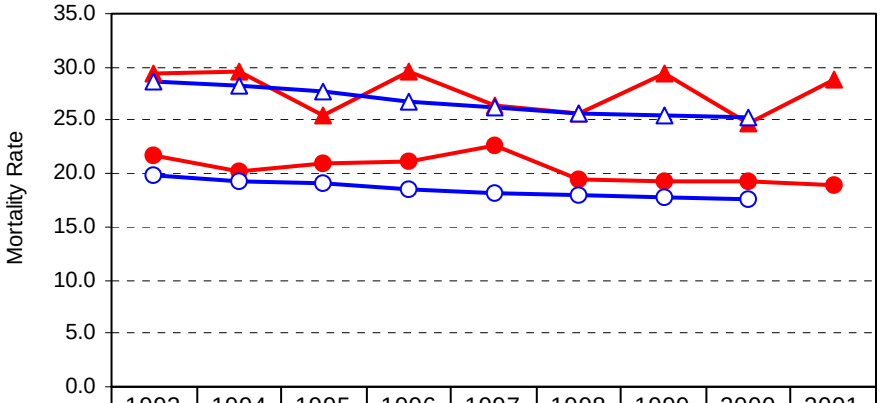
Figure 5.1

*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 Colon & Rectum

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	29.4	29.6	25.5	29.5	26.4	25.7	29.4	24.7	28.9
US Males	28.6	28.3	27.7	26.7	26.2	25.6	25.5	25.2	
WV Females	21.8	20.3	20.9	21.2	22.7	19.5	19.3	19.3	18.9
US Females	19.8	19.3	19.1	18.5	18.1	18.0	17.8	17.6	

Figure 5.2

*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 Colon & Rectum

Incidence Rates*, Age-Specific

West Virginia Residents 1997 - 2001

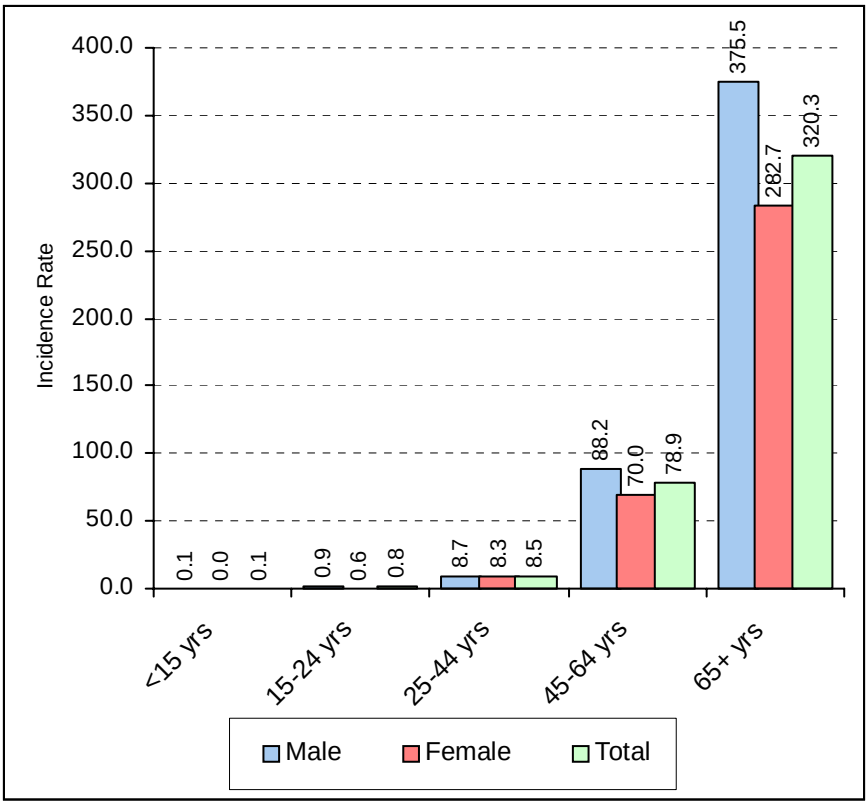


Figure 5.3

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

Cancer of the Colon & Rectum

Most Frequent Histologies

West Virginia Residents 1997 - 2001

ICD-O Code	Histology	% of Invasive Cases
814	Adenocarcinoma	71.6
848	Mucinous Adenocarcinoma	11.1
826	Adenocarcinoma (Papillary or in Villous Adenoma)	7.2
821	Tubular Adenocarcinoma	2.8
801	Carcinoma	2.2
800	Malignant Neoplasm	2.0
824	Carcinoid Tumor	1.3

Table 5.2

Cancer of the Colon & Rectum

Stage of Disease at Diagnosis

West Virginia Residents 1997 - 2001

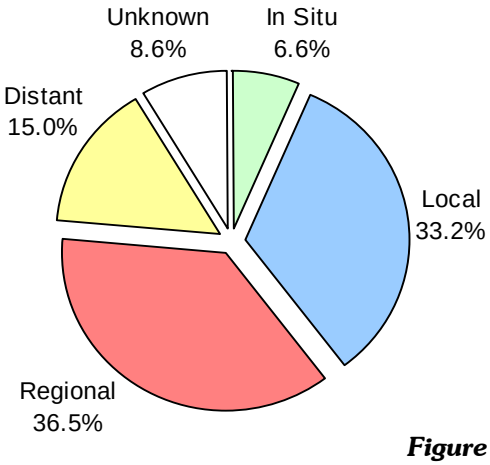
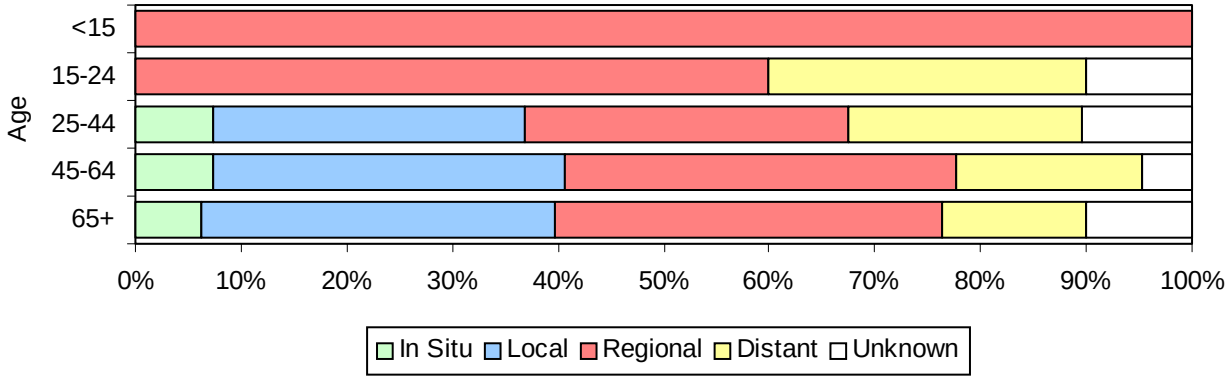


Figure 5.4

Cancer of the Colon & Rectum

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%	0	0.0%	~	100.0%
15-24	0	0.0%	0	0.0%	~		~		~		~	100.0%
25-44	17	7.4%	68	29.4%	71	30.7%	~		~		231	100.0%
45-64	139	7.3%	634	33.3%	706	37.1%	335	17.6%	89	4.7%	1,903	100.0%
65+	299	6.3%	1,586	33.5%	1,732	36.5%	645	13.6%	479	10.1%	4,741	100.0%
Total	455	6.6%	2,288	33.2%	2,516	36.5%	1,034	15.0%	593	8.6%	6,886	100.0%

~ Suppressed due to small cell size

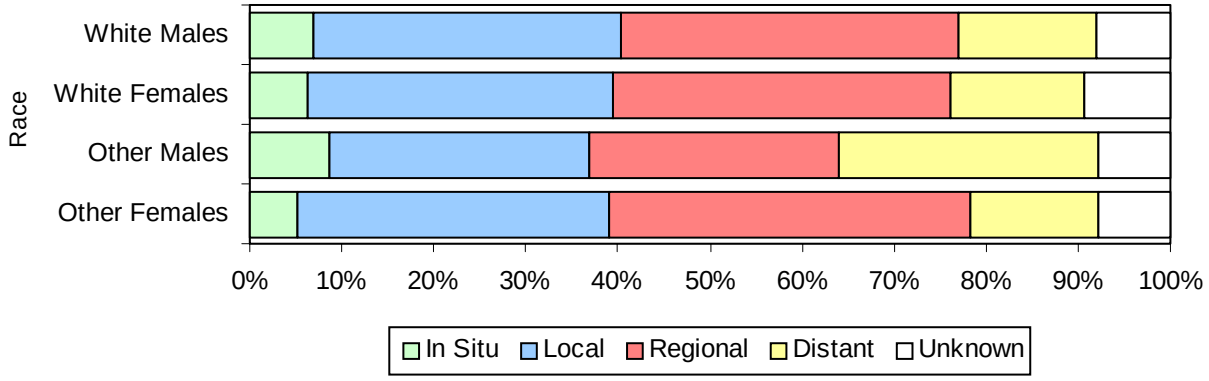
Total may not add to 100% due to rounding.

Figure 5.5

Cancer of the Colon & Rectum

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	230	6.9%	1,115	33.5%	1,218	36.6%	503	15.1%	264	7.9%	3,330	100.0%
White Females	210	6.3%	1,105	33.1%	1,225	36.7%	486	14.6%	312	9.3%	3,338	100.0%
Other Males	9	8.7%	29	28.2%	28	27.2%	29	28.2%	8	7.8%	103	100.0%
Other Females	6	5.2%	39	33.9%	45	39.1%	16	13.9%	9	7.8%	115	100.0%
Total	455	6.6%	2,288	33.2%	2,516	36.5%	1,034	15.0%	593	8.6%	6,886	100.0%

Total may not add to 100% due to rounding.

Figure 5.6

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 for colorectal cancer still exist in West Virginia, they have decreased over time.

Cancer of the Colon & Rectum

Average Percentage of Colorectal Cancers Diagnosed at In Situ or Local Stage, West Virginia Residents, 1993 – 2001

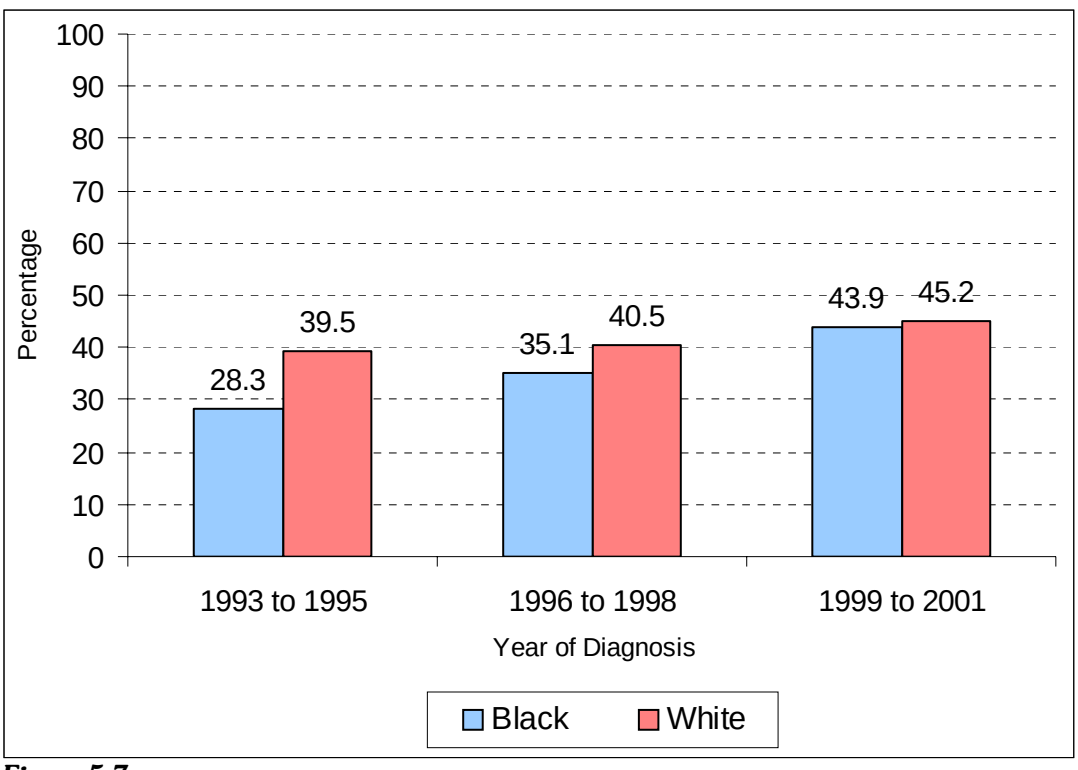
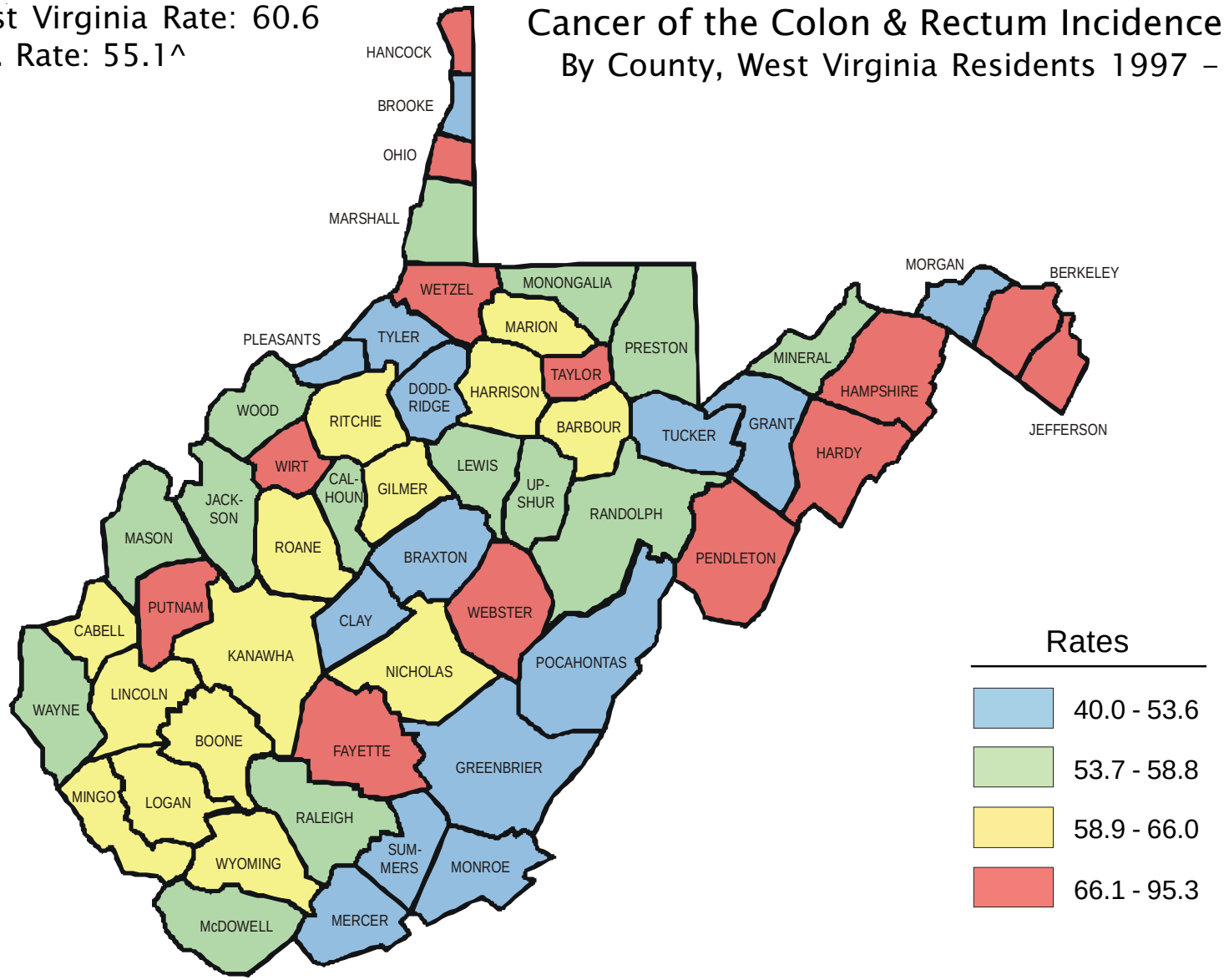


Figure 5.7

West Virginia Rate: 60.6
U.S. Rate: 55.1^

Cancer of the Colon & Rectum Incidence Rates*
By County, West Virginia Residents 1997 – 2001

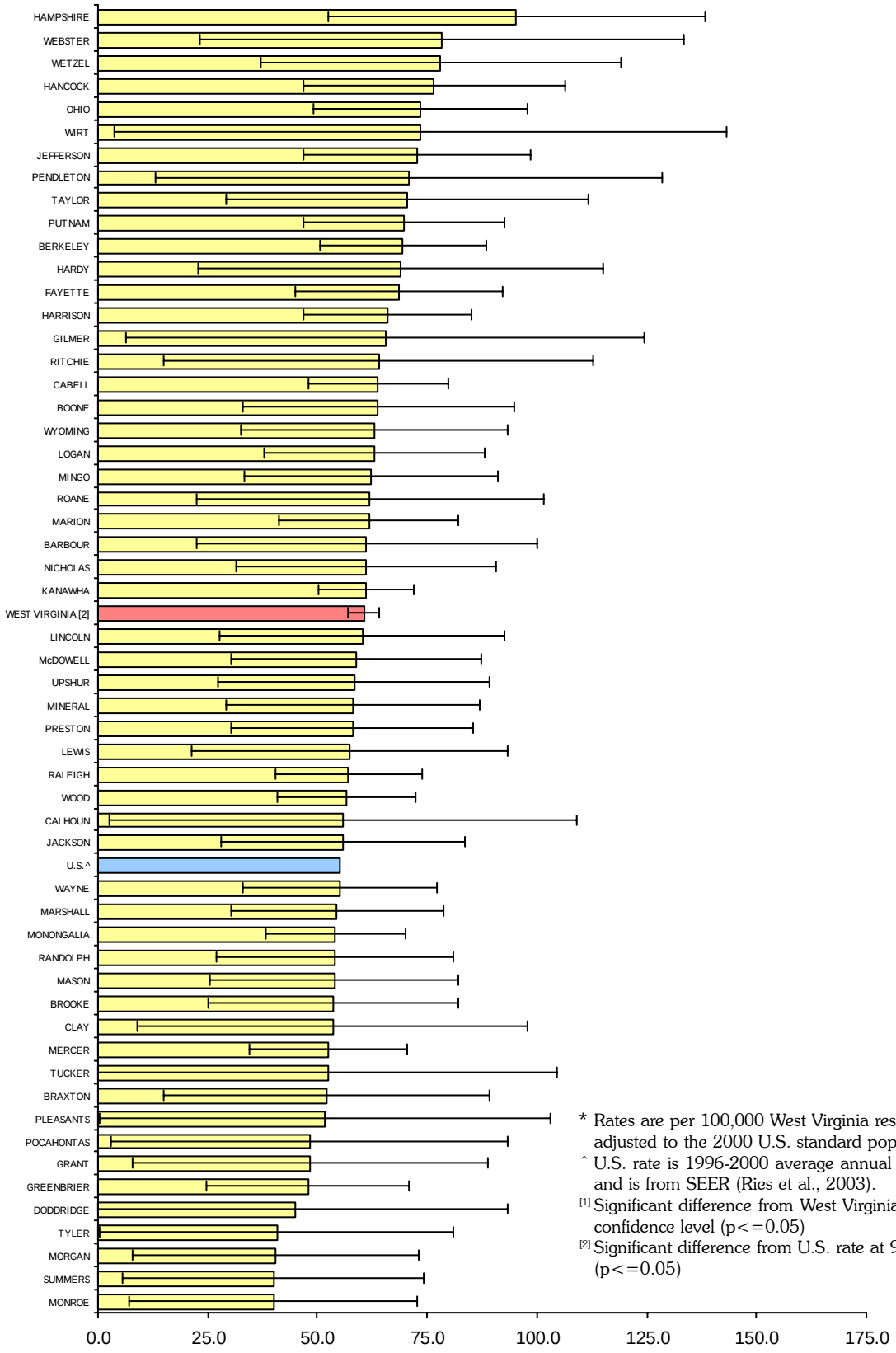


* Five-year average annual rate per 100,000 West Virginia residents, age-adjusted to the 2000 U.S. standard population.
^ U.S. rate is 1996-2000 average annual age-adjusted rate and is from SEER (Ries *et al.*, 2003).
Refer to Table 5.3 for individual county rates and measures of statistical significance.

Figure 5.8

Cancer of the Colon & Rectum

Average Annual Incidence Rates* by County, West Virginia Residents 1997 – 2001



* Rates are per 100,000 West Virginia residents 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 5.9

Cancer of the Colon & Rectum

Average Annual Incidence Rates* by County, West Virginia Residents 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	58	61.2	No	No	MINGO	89	62.2	No	No
BERKELEY	235	69.5	No	No	MONONGALIA	189	54.1	No	No
BOONE	88	63.8	No	No	MONROE	34	40.0	No	No
BRAXTON	46	52.1	No	No	MORGAN	38	40.5	No	No
BROOKE	90	53.6	No	No	NICHOLAS	93	61.0	No	No
CABELL	371	63.8	No	No	OHIO	237	73.6	No	No
CALHOUN	28	55.9	No	No	PENDLETON	39	70.9	No	No
CLAY	29	53.4	No	No	PLEASANTS	22	51.7	No	No
DODDRIDGE	19	45.0	No	No	POCAHONTAS	29	48.2	No	No
FAYETTE	203	68.6	No	No	PRESTON	99	57.9	No	No
GILMER	28	65.4	No	No	PUTNAM	165	69.6	No	No
GRANT	33	48.2	No	No	RALEIGH	267	57.1	No	No
GREENBRIER	110	47.8	No	No	RANDOLPH	91	54.0	No	No
HAMPSHIRE	106	95.3	No	No	RITCHIE	39	63.9	No	No
HANCOCK	175	76.5	No	No	ROANE	55	62.0	No	No
HARDY	50	69.0	No	No	SUMMERS	37	40.0	No	No
HARRISON	284	66.0	No	No	TAYLOR	68	70.5	No	No
JACKSON	89	55.8	No	No	TUCKER	28	52.4	No	No
JEFFERSON	137	72.7	No	No	TYLER	24	40.7	No	No
KANAWHA	759	61.0	No	No	UPSHUR	78	58.3	No	No
LEWIS	60	57.2	No	No	WAYNE	132	55.1	No	No
LINCOLN	69	60.2	No	No	WEBSTER	46	78.3	No	No
LOGAN	133	62.9	No	No	WETZEL	86	78.1	No	No
MARION	231	61.8	No	No	WIRT	24	73.5	No	No
MARSHALL	120	54.4	No	No	WOOD	298	56.6	No	No
MASON	82	53.9	No	No	WYOMING	88	63.0	No	No
McDOWELL	100	58.8	No	No					
MERCER	210	52.5	No	No	WEST VIRGINIA	6,430	60.6		YES
MINERAL	92	58.1	No	No	U.S.^		55.1		

* Rates are per 100,000 West Virginia residents 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).

Table 5.3