

CHAPTER 4

Digestive Cancers

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The Surveillance, Epidemiology, and End Results (SEER) program provides considerable information on cancer burden not available for other digestive diseases. SEER statistics used in this report are number of cases and incidence in 2004, and the time trends for incidence and 5-year survival following diagnosis between 1979 and 2004. The codes used by ICD-9, ICD-10, and SEER are listed in Appendix 1.

ALL DIGESTIVE SYSTEM CANCERS

In 2004, approximately 233,000 persons were diagnosed with digestive system cancers (Table 1), which represented 18 percent of all cancers and was second only to genital system cancers for the most commonly affected organ system. Two-thirds of digestive system cancers occurred among persons age 65 years and older. The median age of diagnosis was 70 years, compared with 67 years for all cancers (http://seer.cancer.gov/csr/1975_2005/results_merged/topic_med_age.pdf). Age-adjusted rates were highest among non-Hispanic blacks and lowest among American Indians. Males had slightly higher rates than females. Age-adjusted incidence declined by 13.2 percent between 1979 and 2004, with the entire decline coming after 1986 (Figure 1). Survival for all cancers and for individual cancers was calculated as absolute survival. Other reports may calculate survival relative to the general population with the same age and sex distribution, which would result in higher apparent survival. The same trends, however, would be seen for either approach. Five-year survival increased an absolute 6 percent to 34.6 percent; thus, for every 100 persons diagnosed with a digestive system cancer in 1999, 6 more survived at least 5 years longer than did those diagnosed 20 years earlier.

There were approximately 3.5 million ambulatory care visits for first-listed digestive system cancer in 2004 and 4.2 million all-listed visits. The elderly, whites, and males had the highest rates of ambulatory care visits (Table 2). Among all hospital discharges with digestive system cancers, about half were first-listed. The main

demographic difference between ambulatory care diagnoses and hospital diagnoses was that blacks had a higher age-adjusted rate of hospital diagnoses. Rates of ambulatory care visits for digestive system cancers did not change appreciably over the period 1992–2004, but hospitalizations rates declined by 13.6 percent over that period (Figure 2).

In 2004, there were approximately 135,000 deaths due to digestive system cancers (Table 3), which represented 24 percent of all cancers and were second only to respiratory system cancers as cause of death due to cancer. As underlying cause, digestive system cancers constituted 57.2 percent of all digestive disease deaths. Death rates among persons 65 years and older were 5 times that of those aged 45–64 years. Age-adjusted death rates were higher among blacks and men. There were 945,000 YPLL due to digestive system cancer, the large majority occurring among males. Death rates from digestive system cancer declined steadily between 1979 and 2004 by an overall 19.8 percent (Figure 3).

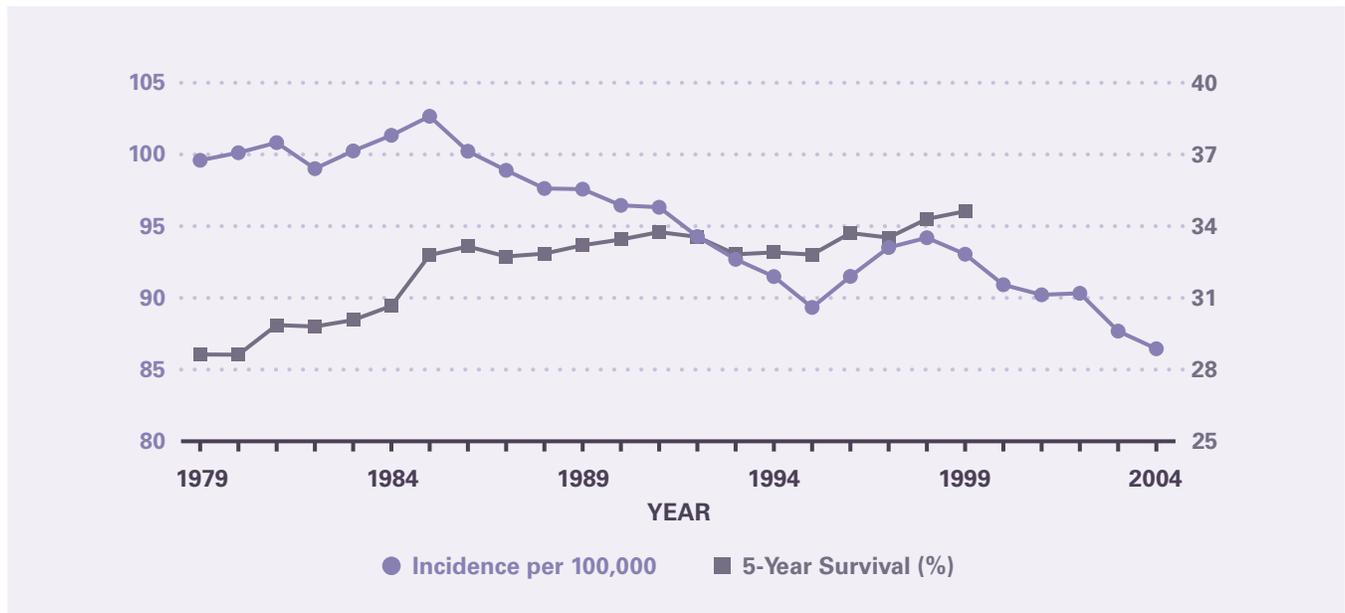
MEDICATIONS The costliest prescriptions filled at retail pharmacies for digestive system malignancies in 2004, according to the Verispan database (Appendix 2), are shown in Table 4. An estimated 879,000 outpatient prescriptions were filled. The costliest agents were either anti-neoplastic agents, such as capecitabine, or nonspecific pain and anti-nausea medications, such as fentanyl. Because the prescriptions were filled at retail pharmacies and do not capture all the settings where anti-cancer treatment is prescribed, this table both underestimates the number of prescriptions and likely misses many of the drugs used to treat digestive system malignancies. Medications are not shown for the individual malignancies in the following chapters.

Table 1. All Digestive Cancers: Number of Cases and Incidence Rates by Age, Race/Ethnicity, and Sex, 2004

DEMOGRAPHIC CHARACTERISTICS		Number of Cases	INCIDENCE PER 100,000	
			Unadjusted	Age-Adjusted
AGE (Years)	Under 15	293	0.5	—
	15–44	10,927	9.1	—
	45–64	78,215	111.6	—
	65+	154,886	452.8	—
RACE/ETHNICITY	Non-Hispanic White	191,668	99.6	83.5
	Non-Hispanic Black	26,748	78.3	109.0
	Hispanic	15,921	39.3	81.8
	Asian/Pacific Islander	8,914	72.4	84.4
	American Indian/Alaska Native	1,009	54.5	75.0
SEX	Female	109,058	74.7	70.0
	Male	123,967	88.7	105.1
TOTAL		233,239	81.6	—

SOURCE: Surveillance, Epidemiology, and End Results (SEER) Program

Figure 1. All Digestive Cancers: Age-Adjusted Incidence Rates and 5-Year Survival Rates, 1979–2004

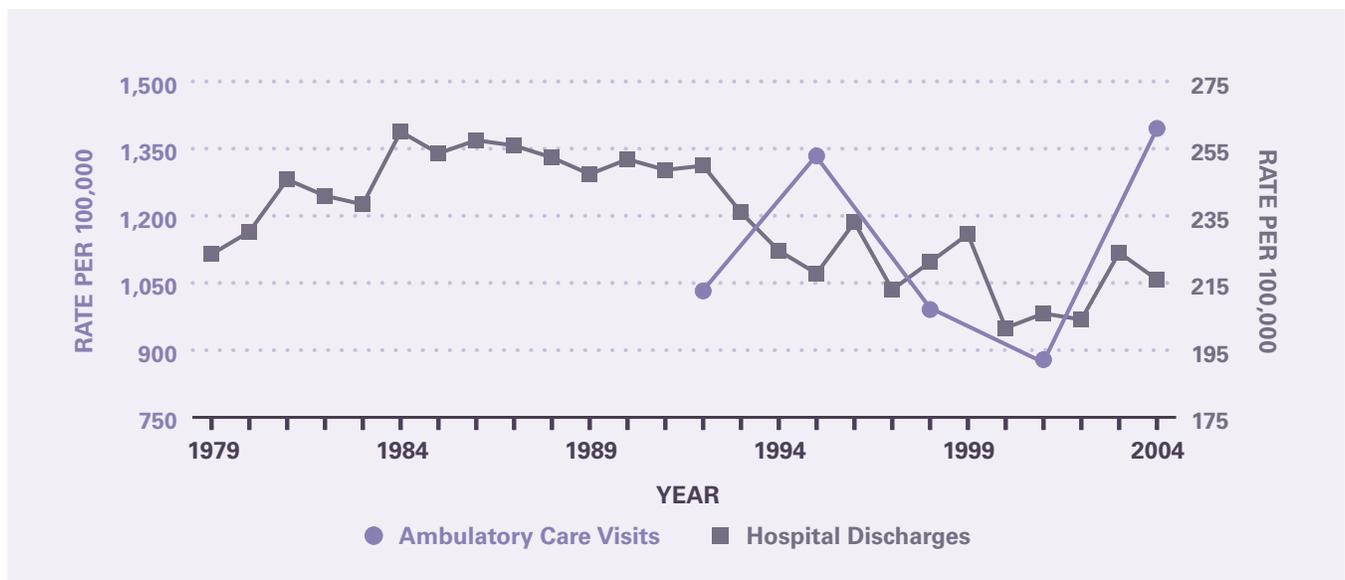


SOURCE: Surveillance, Epidemiology, and End Results (SEER) Program

Table 2. All Digestive Cancers: Number and Age-Adjusted Rates of Ambulatory Care Visits and Hospital Discharges With First-Listed and All-Listed Diagnoses by Age, Race, and Sex in the United States, 2004

DEMOGRAPHIC CHARACTERISTICS	AMBULATORY CARE VISITS				HOSPITAL DISCHARGES				
	First-Listed Diagnosis		All-Listed Diagnoses		First-Listed Diagnosis		All-Listed Diagnoses		
	Number in Thousands	Rate per 100,000	Number in Thousands	Rate per 100,000	Number in Thousands	Rate per 100,000	Number in Thousands	Rate per 100,000	
AGE (Years)	Under 15	—	—	—	—	1	1	5	7
	15–44	110	87	145	115	19	15	47	37
	45–64	1,293	1,829	1,537	2,174	115	163	257	364
	65+	2,034	5,600	2,472	6,805	200	550	418	1,149
RACE	White	3,149	1,235	3,771	1,479	263	102	572	222
	Black	240	802	313	1,040	40	141	89	307
SEX	Female	1,740	1,081	2,218	1,375	167	100	374	226
	Male	1,741	1,309	1,980	1,485	168	128	351	267
TOTAL		3,481	1,185	4,198	1,429	335	114	726	247

SOURCE: National Ambulatory Medical Care Survey (NAMCS) and National Hospital Ambulatory Medical Care Survey (NHAMCS) (3-year average, 2003–2005), and Healthcare Cost and Utilization Project Nationwide Inpatient Sample (HCUP NIS)

Figure 2. All Digestive Cancers: Age-Adjusted Rates of Ambulatory Care Visits and Hospital Discharges With All-Listed Diagnoses in the United States, 1979–2004

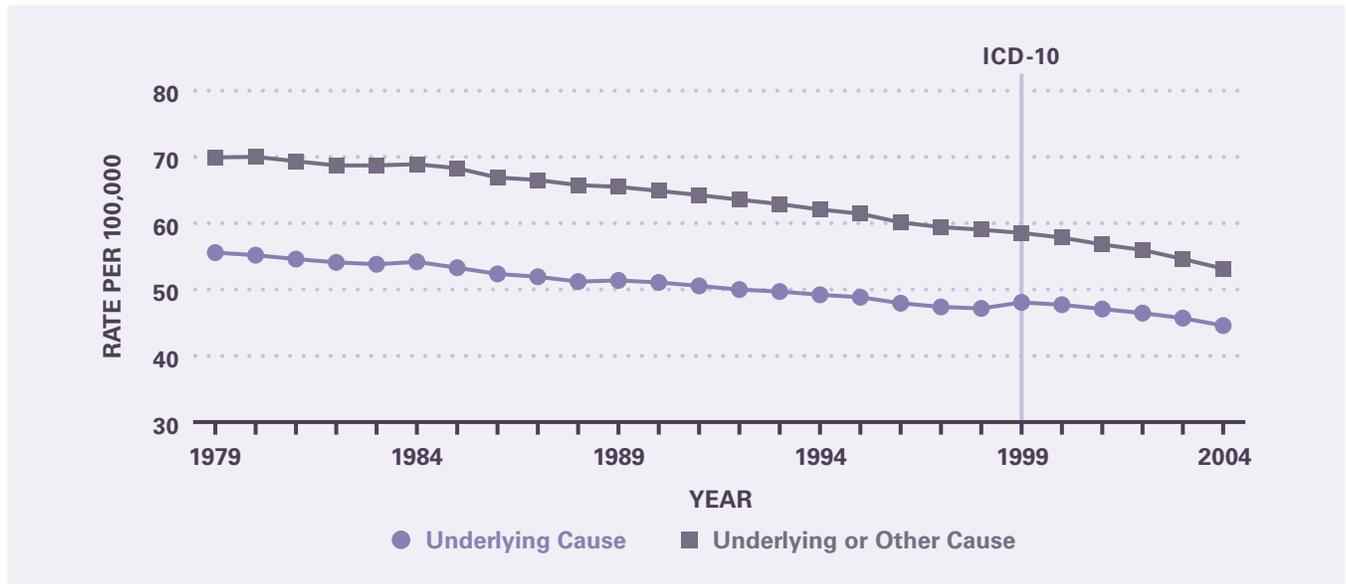
SOURCE: National Ambulatory Medical Care Survey (NAMCS) and National Hospital Ambulatory Medical Care Survey (NHAMCS) (averages 1992–1993, 1994–1996, 1997–1999, 2000–2002, 2003–2005), and National Hospital Discharge Survey (NHDS)

Table 3. All Digestive Cancers: Number and Age-Adjusted Rates of Deaths and Years of Potential Life Lost (to Age 75) by Age, Race, and Sex in the United States, 2004

DEMOGRAPHIC CHARACTERISTICS	UNDERLYING CAUSE			UNDERLYING OR OTHER CAUSE		
	Number of Deaths	Rate per 100,000	Years of Potential Life Lost in Thousands	Number of Deaths	Rate per 100,000	
AGE (Years)	Under 15	43	0.1	3.0	57	0.1
	15–44	3,972	3.2	142.7	4,549	3.6
	45–64	35,968	50.9	648.1	41,599	58.8
	65+	95,123	261.8	151.5	114,984	316.5
RACE	White	113,468	43.5	737.8	136,231	52.2
	Black	16,907	62.2	161.7	19,587	72.3
SEX	Female	61,515	35.4	346.5	74,315	42.7
	Male	73,592	57.9	598.7	86,876	68.8
TOTAL		135,107	46.0	945.2	161,191	54.9

SOURCE: Vital Statistics of the United States

Figure 3. All Digestive Cancers: Age-Adjusted Rates of Death in the United States, 1979–2004



SOURCE: Vital Statistics of the United States

Table 4. All Digestive Cancers: Costliest Prescriptions

DRUG	Prescription (#)	Prescription	Retail Cost	Cost
Capecitabine	77,376	8.8%	\$76,943,103	53.6%
Fentanyl	80,768	9.2	21,519,990	15.0
Oxycodone	92,577	10.5	20,027,456	14.0
Hydromorphone	371,312	42.2	16,110,590	11.2
Oxycodone/Acetaminophen	215,506	24.5	4,516,077	3.1
Morphine	17,890	2.0	3,690,323	2.6
Gemcitabine	379	0.0	361,858	0.3
Hydrocodone/Acetaminophen	4,285	0.5	249,901	0.2
Bevacizumab	18	0.0	45,962	0.0
Cetuximab	15	0.0	27,876	0.0
Other	18,557	2.0	14,683	0.0
TOTAL	878,683	100.0%	\$143,507,819	100.0%

SOURCE: Verispan