

CHAPTER 20

Diverticular Disease

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Under ICD-10, diverticular disease is coded by anatomical site (small intestine, large intestine, both, or unspecified), although nearly all disease occurs in the large intestine, and by complication (perforation, abscess, or peritonitis). Under ICD-9, complications are not listed, but would presumably fall under diverticulitis, which is not a code under ICD-10.

In 2004, diverticular disease was the fifth most common reason for ambulatory care visits, after GERD, constipation, abdominal wall hernia, and hemorrhoids. Diverticular disease is generally considered a disease of the elderly, a belief that is consistent with medical care statistics (Table 1). Rates of ambulatory care visits increased with age, such that half of all visits for diverticular disease were for persons age 65 years and older. Age-adjusted rates were 18 percent higher among whites than blacks and 49 percent higher among women than men. Among digestive diseases, diverticular disease was also one of the most common reasons for hospitalization, with 313,000 first-listed and 815,000 all-listed diagnoses. Rates of hospitalization by demographic groups were similar to those of ambulatory care visits, although blacks had a higher rate than whites.

Ambulatory care visits with a diagnosis of diverticular disease increased about 18 percent between 1992–1993 and 2003–2005 (Figure 1). The rate of hospitalizations with a diagnosis of diverticular disease declined from 1982 until 1989, as it did for other digestive diseases. After several years of minimal change, rates began to increase slightly at the end of the 1990s, rising 16.4 percent between 1996 and 2004.

Diverticular disease was listed as the underlying cause of death among about 58 percent of certificates on which it was listed (Table 2). Nearly 90 percent of underlying cause of deaths occurred among persons age 65 years and older, resulting in an average of only 2.5 YPLL prior to age 75 per death. Age-adjusted death rates were modestly higher among whites and females. Mortality rates as underlying cause of death declined steadily by a total of 35 percent from 1980 through 2004 (Figure 2), which continued a decline begun in 1970 or earlier.¹

In 2004, there were an estimated 2.8 million prescriptions at a cost of \$100 million filled at retail pharmacies for diagnosis of diverticular disease (Table 3), according to the Verispan database (Appendix 2). All 10 costliest medications were for either antimicrobial agents (ciprofloxacin being the costliest and most common) or pain-relievers, led by morphine.

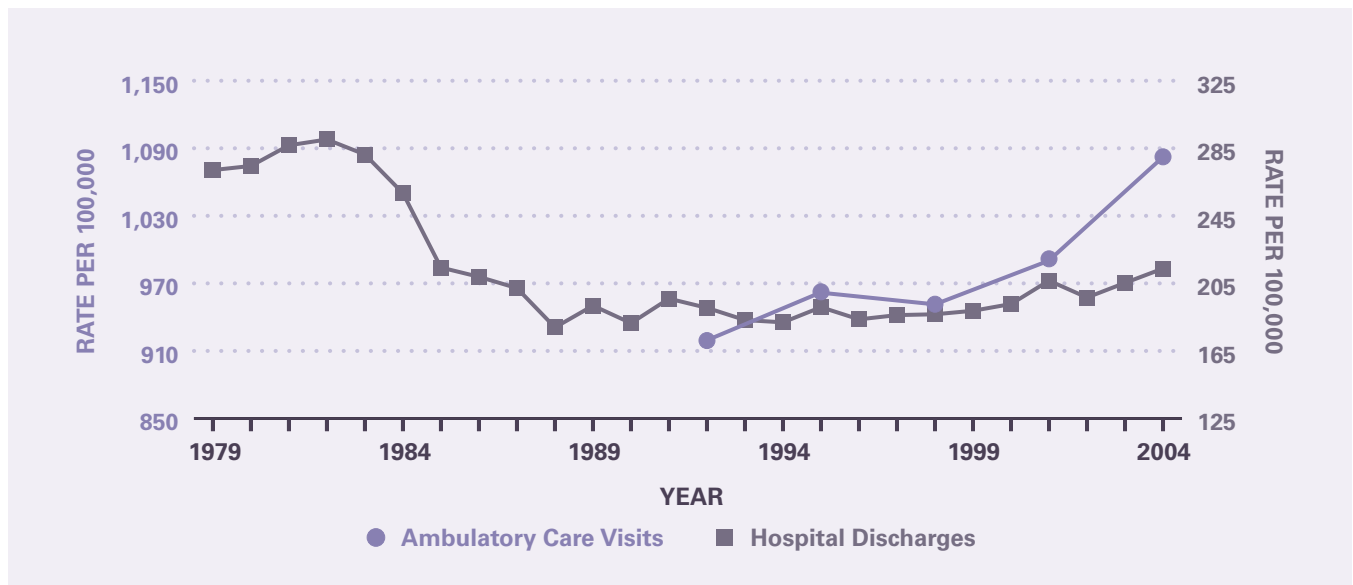
¹ Mendeloff AI, Everhart JE. Diverticular disease of the colon. In: Everhart JE, editor. *Digestive diseases in the United States: epidemiology and impact*. US Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases. Washington, DC: US Government Printing Office, 1994; NIH Publication No. 94-1447 pp. 551–565.

Table 1. Diverticular Disease: 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	—	—	—	—	—	—	—	—
	15–44	280	222	329	261	39	31	59	47
	45–64	622	879	1,239	1,753	101	142	212	299
	65+	947	2,607	1,686	4,641	173	477	544	1,498
RACE	White	1,609	627	2,878	1,115	252	99	668	258
	Black	143	481	264	945	30	110	79	291
SEX	Female	1,284	785	2,109	1,293	181	108	493	288
	Male	580	434	1,160	865	131	99	321	251
TOTAL		1,864	635	3,269	1,113	313	107	815	278

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 1. Diverticular Disease: Age-Adjusted Rates of Ambulatory Care Visits and Hospital Discharges With All-Listed Diagnoses in the United States, 1979–2004



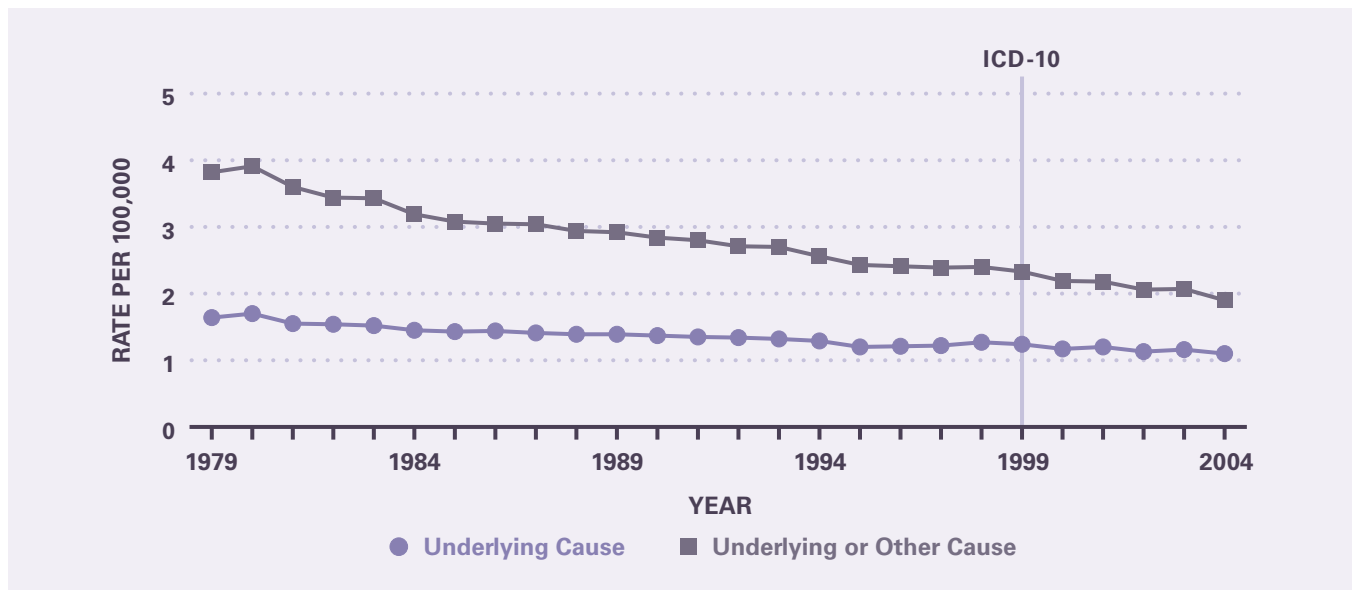
SOURCE: National Ambulatory Medical Care Survey (NAMCS) and National Hospital Ambulatory Medical Care Survey (NHAMCS) (averages 1992–1993, 1994–1996, 1997–1999, 2000–2002, 2003–2005), and National Hospital Discharge Survey (NHDS)

Table 2. Diverticular Disease: 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	—	—	—	—
	15–44	39	0.0	58	0.0
	45–64	306	0.4	505	0.7
	65+	3,027	8.3	5,238	14.4
RACE	White	3,084	1.2	5,308	2.0
	Black	243	1.0	410	1.7
SEX	Female	2,299	1.2	3,867	2.1
	Male	1,073	0.9	1,934	1.7
TOTAL		3,372	1.1	5,801	2.0

SOURCE: Vital Statistics of the United States

Figure 2. Diverticular Disease: Age-Adjusted Rates of Death in the United States, 1979–2004



SOURCE: Vital Statistics of the United States

Table 3. Diverticular Disease: Costliest Prescriptions

DRUG	Prescription (#)	Prescription	Retail Cost	Cost
Ciprofloxacin	563,520	20.2%	\$32,814,344	32.7%
Morphine	788,714	28.3	22,240,858	22.2
Levofloxacin	221,943	8.0	20,204,227	20.2
Metronidazole	745,223	26.7	11,416,565	11.4
Amoxicillin/Clavulanate	125,629	4.5	6,411,362	6.4
Hydrocodone/Acetaminophen	187,977	6.7	1,640,576	1.6
Oxycodone/Acetaminophen	47,534	1.7	1,190,000	1.2
Cephalexin	36,199	1.3	715,276	0.7
Ibuprofen/Hydrocodone	15,994	0.6	703,984	0.7
Moxifloxacin	5,577	0.2	611,465	0.6
Other	51,210	1.7	2,281,170	2.3
TOTAL	2,789,520	100.0%	\$100,229,827	100.0%

SOURCE: Verispan