CHAPTER 15

Peptic Ulcer Disease

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Peptic ulcers are coded by anatomical location (stomach, duodenum, gastrojejunum, and unspecified), chronicity, and by complication (hemorrhage or perforation). The ICD codes that cover peptic ulcers are shown in Appendix 1. In 2004, there were about 700,000 ambulatory care visits with peptic ulcer as the first-listed diagnosis and an equal number in which it was a secondary diagnosis (Table 1). Ambulatory care rates increased with increasing age, were higher for blacks than for whites, and were higher among women. When listed at hospital discharge, peptic ulcer was the first-listed diagnosis 37 percent of the time.

The frequency of outpatient and inpatient care declined for peptic ulcer disease (Figure 1), which continued a pattern that began in the 1970s, if not before.[1] Within 12 years, age-adjusted ambulatory care visit rates with a peptic ulcer diagnosis declined 68 percent, and within 25 years, hospital discharge rates declined 51 percent.

Peptic ulcer was coded as the underlying cause among 3,692 deaths in 2004 and other cause among an additional 4,604 deaths (Table 2). Nearly 80 percent of these deaths occurred among persons age 65 years and older. Age-adjusted death rates were similar for blacks and whites and were higher for males than females. Between 1979 and 2004, mortality from peptic ulcer as underlying cause declined 62.6 percent and as underlying or other cause by 68.8 percent (Figure 2). This continued at least a century of decline in peptic ulcer mortality.[2] Much of the decline in the medical significance of peptic ulcer has been attributed to the decline of *Helicobacter pylori*, which is a causative agent. This effect has likely been accelerated by the widespread adoption of acid suppressive medications (Table 3) and eradication of *H. pylori* infection by antimicrobial agents. Although antimicrobial agents are important for treatment of peptic ulcer disease, they do not appear among the most commonly used drugs, perhaps because of their short-term self-limited use. The high use of acid suppressant therapy does not differentiate indications for treatment from prophylaxis.

[1] Sonnenberg A. Peptic ulcer. 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. 357–408.

[2] Ibid.

Table 1. Peptic Ulcer 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	—	—	—	—	1	2	2	4
	15–44	251	199	472	375	23	19	61	48
	45–64	164	233	472	668	53	75	142	201
	65+	295	812	525	1,444	104	285	283	780
RACE	White	420	171	926	371	134	52	361	141
	Black	71	251	149	491	21	70	65	218
SEX	Female	389	242	898	574	92	55	259	154
	Male	323	230	575	408	89	68	229	176
TOTAL		712	243	1,473	501	181	62	489	166

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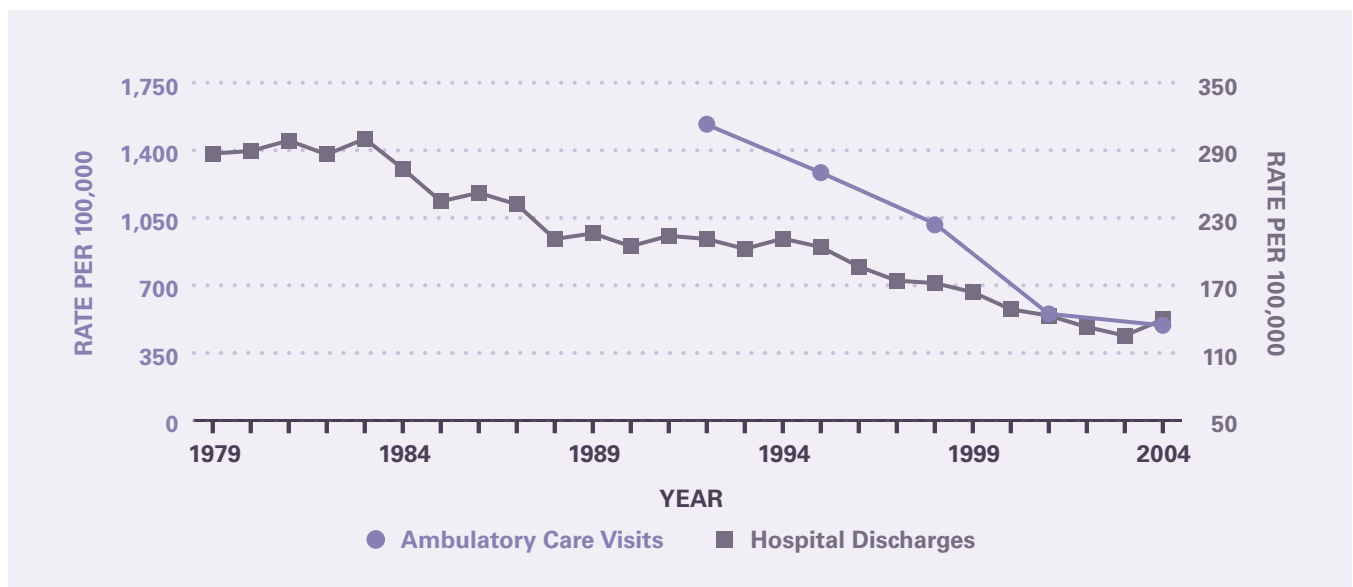

SOURCE: National Ambulatory Medical Care Survey (NAMCS) and National Hospital Ambulatory Medical Care Survey (NHAMCS) (averages 1992–1993, 1994–1996, 1997–1999, 2000–2002, 2003–2005), and National Hospital Discharge Survey (NHDS)

Table 2. Peptic Ulcer 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	7	0.0	0.5	9	0.0
	15–44	118	0.1	4.3	221	0.2
	45–64	646	0.9	12.1	1,331	1.9
	65+	2,921	8.0	2.7	6,733	18.5
RACE	White	3,221	1.2	14.9	7,183	2.7
	Black	368	1.3	4.3	849	3.2
SEX	Female	1,995	1.1	7.4	4,287	2.3
	Male	1,697	1.4	12.3	4,009	3.3
TOTAL		3,692	1.3	19.7	8,296	2.8

SOURCE: Vital Statistics of the United States

Figure 2. Peptic Ulcer Disease: Age-Adjusted Rates of Death in the United States, 1979–2004
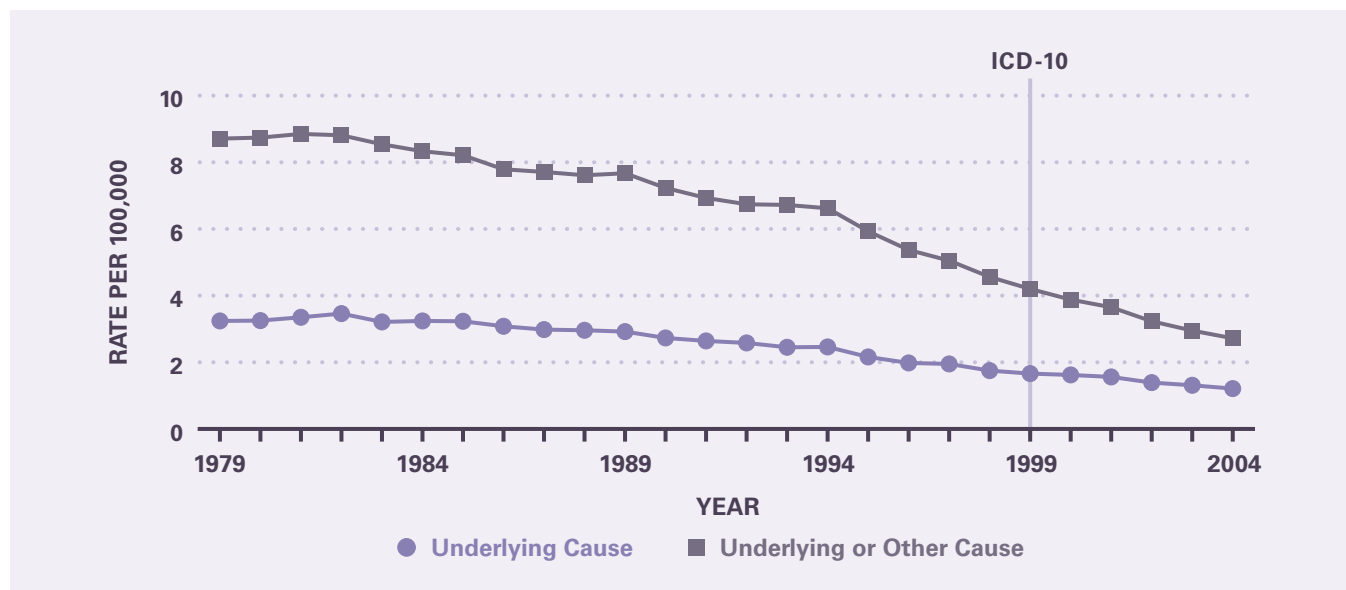
SOURCE: Vital Statistics of the United States

Table 3. Peptic Ulcer Disease: Costliest Prescriptions

DRUG	Prescription (#)	Prescription	Retail Cost	Cost
Lansoprazole	1,341,444	26.7%	$177,496,893	34.2%
Pantoprazole	1,128,002	22.5	123,697,885	23.9
Esomeprazole	680,009	13.6	85,753,825	16.5
Lansoprazole/Amoxicillin/Clarithromycin	130,482	2.6	40,749,140	7.9
Omeprazole	333,879	6.7	30,663,736	5.9
Rabeprazole	204,602	4.1	27,175,479	5.2
Ranitidine	727,492	14.5	13,039,236	2.5
Nizatidine	89,340	1.8	9,185,345	1.8
Sucralfate	157,770	3.1	5,342,588	1.0
Famotidine	135,865	2.7	3,072,170	0.6
Other	89,023	1.8	2,394,483	0.4
TOTAL	5,017,908	100.0%	$518,570,780	100.0%

SOURCE: Verispan