

CHAPTER 18

Abdominal Wall Hernia

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Abdominal wall hernias (AWH) are coded by their anatomical location (direct and indirect inguinal, femoral, and umbilical, plus other or unspecified) and subcoded by complication (obstruction, with or without gangrene) in ICD-10. Coding was different in ICD-9, which had an odd combination of location and complication (Appendix 1). However, the individual codes match up fairly well between the two editions.

The large majority of AWH are inguinal hernias, which frequently occur as a result of incomplete closure of the inguinal canal in male infants. Hence, there was a substantial number of ambulatory care visits among children and more than twice the rate among males as females in 2004 (Table 1). However, among adults, the rate of visits increased progressively with age. Whites had a higher rate than blacks. Rates have not changed appreciably since 1975.¹ AWH was the third leading cause of ambulatory care visits in 2004, after GERD and constipation. Rates of hospital discharges with AWH were higher among blacks and there was little difference by sex.

The definitive treatment of AWH is by surgical repair. Because most repairs no longer require overnight hospitalization, the rate of hospitalizations has declined substantially, largely over a 10-year period between 1983 and 1993 (Figure 1). This decline was mostly accounted for by substantial reduction in the number of direct hernia repairs among males.² The same decline did not occur among females, which may account for the similar discharge rates between males and females.

In 2004, more than 1,000 persons died with AWH as the underlying cause (Table 2). The large majority of deaths occurred among persons age 65 years and older. Mortality rates were similar for whites and blacks and for males and females. Mortality rates declined between 1979 and the mid-1990s for AWH as underlying cause and more substantially as underlying or other cause (Figure 2). Mortality rates were then stable through 2004.

Because AWH is primarily a surgical condition, prescriptions filled at retail pharmacies captured through the Verispan database (Appendix 2) may not have captured the extent and nature of medication use for these conditions. In 2004, there were an estimated 3.7 million retail prescriptions filled, at a cost of \$59.5 million. More than 97 percent of these prescriptions were for analgesics, with the rest for antimicrobial agents.

¹ Everhart JE. Abdominal wall hernia. 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. 469–507.

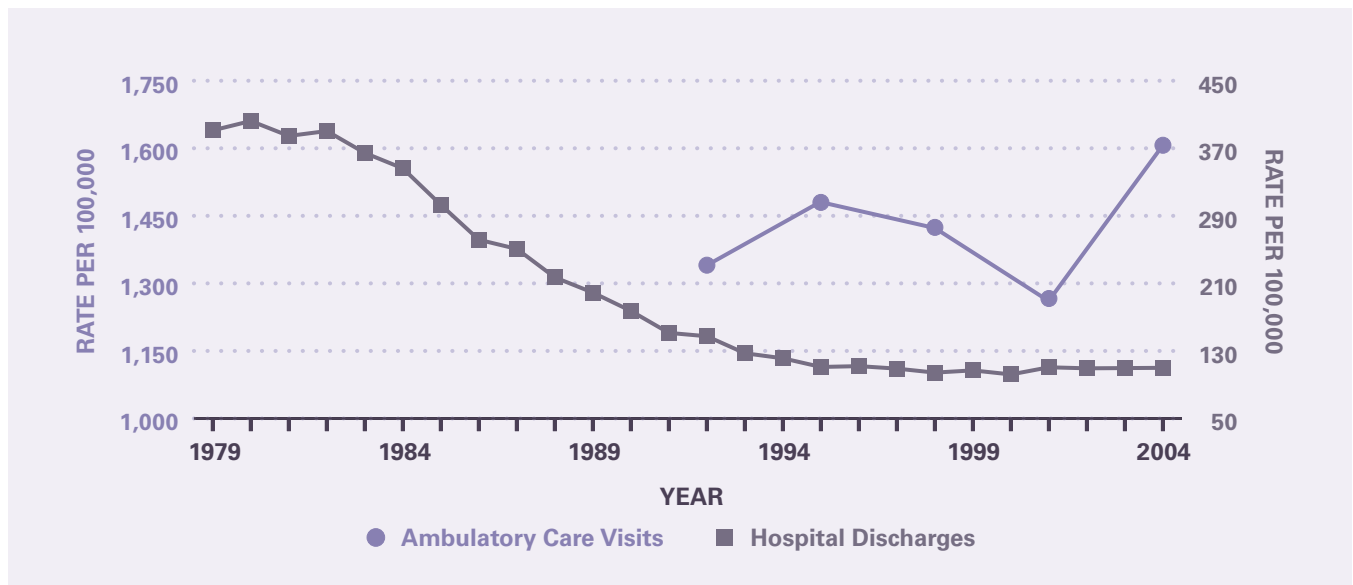
² Ibid.

Table 1. Abdominal Wall Hernia: 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	160	264	417	685	5	8	24	40
	15–44	1,113	885	1,278	1,016	29	23	65	52
	45–64	1,492	2,111	1,804	2,552	60	84	124	176
	65+	976	2,686	1,288	3,545	69	189	158	435
RACE	White	3,347	1,348	4,223	1,703	130	51	290	115
	Black	287	858	437	1,275	17	54	47	142
SEX	Female	1,056	681	1,526	987	86	54	194	121
	Male	2,686	1,902	3,261	2,317	75	56	177	132
TOTAL		3,742	1,274	4,787	1,630	163	55	372	127

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



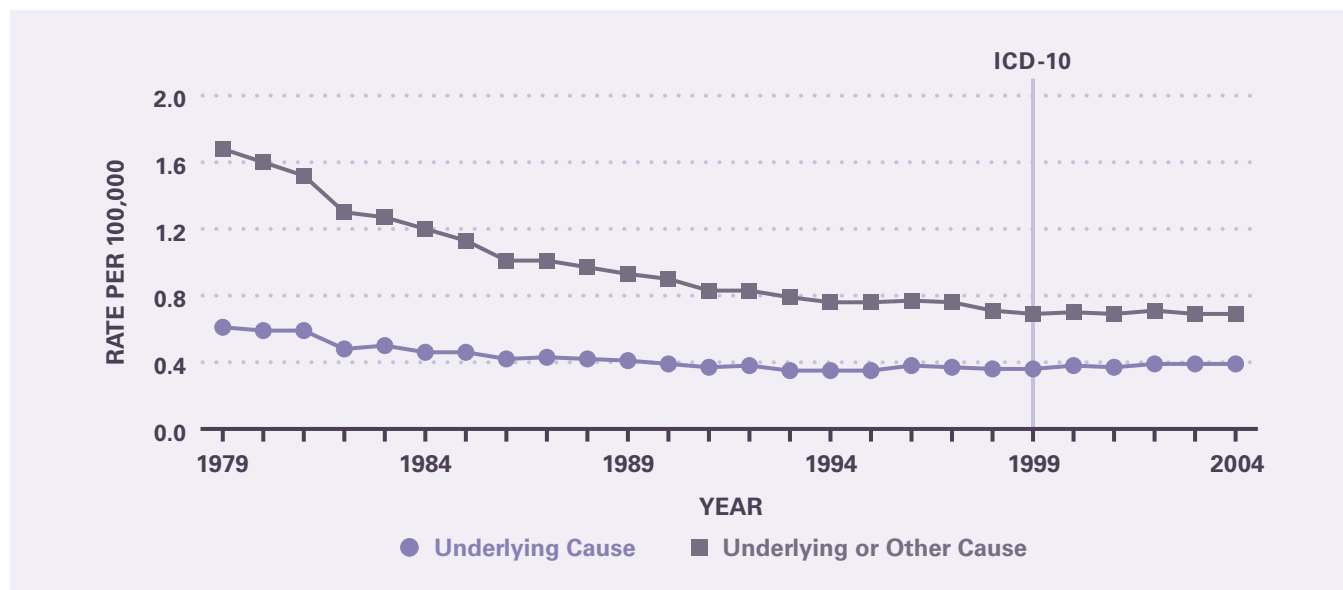
SOURCE: National Ambulatory Medical Care Survey (NAMCS) and National Hospital Ambulatory Medical Care Survey (NHAMCS) (averages 1992–1993, 1994–1996, 1997–1999, 2000–2002, 2003–2005), and National Hospital Discharge Survey (NHDS)

Table 2. Abdominal Wall Hernia: 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	10	0.0	0.7	21	0.0
	15–44	43	0.0	1.6	70	0.1
	45–64	197	0.3	3.8	384	0.5
	65+	922	2.5	0.8	1,624	4.5
RACE	White	1,015	0.4	5.3	1,815	0.7
	Black	133	0.5	1.5	246	0.9
SEX	Female	670	0.4	3.2	1,132	0.6
	Male	502	0.4	3.7	967	0.8
TOTAL		1,172	0.4	6.9	2,099	0.7

SOURCE: Vital Statistics of the United States

Figure 2. Abdominal Wall Hernia: Age-Adjusted Rates of Death in the United States, 1979–2004



SOURCE: Vital Statistics of the United States

