

Table VIII-1
ESOPHAGUS CANCER (Invasive)

TRENDS IN SEER INCIDENCE AND U.S. MORTALITY, BY RACE AND SEX

	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
<u>INCIDENCE TRENDS (expressed in percents)§:</u>									
<u>1973-94</u>									
All Ages									
Percent Change (PC)	11.2	14.7	0.7	17.7	21.1	3.0	-15.3	-11.9	-12.3
Est. Annual PC (EAPC)	0.6★	0.8★	0.0	1.0★	1.2★	0.1	-0.6	-0.5	0.0
Under 65									
Percent Change (PC)	-0.7	11.6	-28.4	11.0	26.8	-26.8	-34.7	-28.9	-42.1
Est. Annual PC (EAPC)	0.0	0.6★	-1.6★	0.6★	1.2★	-1.5★	-1.6★	-1.2	-1.9★
65 and over									
Percent Change (PC)	22.9	17.0	40.1	22.9	17.4	33.8	29.1	17.5	148.5
Est. Annual PC (EAPC)	1.1★	1.0★	1.4★	1.2★	1.2★	1.2★	1.2★	0.6	4.4★
<u>1975-79 - ALL AGES</u>									
Percent Change (PC)	1.9	5.4	-6.8	-1.7	2.2	-10.1	19.8	26.4	4.1
Est. Annual PC (EAPC)	0.9	1.7	-0.8	0.0	1.0	-2.1	5.5★	6.3	4.9
<u>1990-94 - ALL AGES</u>									
Percent Change (PC)	-3.8	-3.1	-6.3	-0.8	-0.2	-4.3	-16.7	-19.4	-10.4
Est. Annual PC (EAPC)	-1.7◇	-1.6	-2.0	-0.4	-0.4	-1.1	-6.7◆	-7.9★◆	-3.8
<u>MORTALITY TRENDS (expressed in percents)*:</u>									
<u>1973-94</u>									
All Ages									
Percent Change (PC)	18.6	23.1	3.6	26.7	32.1	6.1	-5.8	-1.9	-6.0
Est. Annual PC (EAPC)	0.8★	0.9★	0.1	1.1★	1.4★	0.2★	-0.5★	-0.3	-0.2
Under 65									
Percent Change (PC)	5.5	13.6	-22.6	16.9	27.0	-22.3	-20.1	-15.4	-28.1
Est. Annual PC (EAPC)	0.1	0.5★	-1.4★	0.7★	1.1★	-1.3★	-1.4★	-1.2★	-1.9★
65 and over									
Percent Change (PC)	31.1	31.3	28.6	34.3	35.6	26.5	19.6	19.3	41.5
Est. Annual PC (EAPC)	1.3★	1.3★	1.2★	1.4★	1.5★	1.1★	1.0★	0.9★	2.4★
<u>1975-79 - ALL AGES</u>									
Percent Change (PC)	1.7	0.9	3.5	1.2	-0.1	3.4	2.5	3.9	1.2
Est. Annual PC (EAPC)	0.5	0.3	1.1	0.3	-0.1	1.0	1.2	1.7	0.5
<u>1990-94 - ALL AGES</u>									
Percent Change (PC)	2.8	3.7	-1.7	5.4	6.2	0.0	-5.5	-4.9	-6.7
Est. Annual PC (EAPC)	1.0★	1.3★◆	-0.7◆	1.9★◆	2.2★◆	0.0◇	-2.0◆	-1.7◆	-2.5★◆

§ The Est. Annual PC is the Estimated Annual Percent Change (EAPC) over the time interval.
SEER Program.

* NCHS public use tape.

★ The EAPC is significantly different from zero (p<.05).

◆ The EAPC for 1990-94 is significantly different from the EAPC for 1975-79 (p<.05).

◇ The EAPC for 1990-94 is significantly different from the EAPC for 1975-79 (p<.10).

- Statistic could not be calculated.

Table VIII-2
ESOPHAGUS CANCER (Invasive)

SEER INCIDENCE RATES, AGE-ADJUSTED AND AGE-SPECIFIC RATES, BY RACE AND SEX

	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
<u>AGE-ADJUSTED RATES</u>									
<u>YEAR OF DIAGNOSIS:</u>									
1973	3.4	5.5	1.8	3.0	4.8	1.6	9.0	13.3	5.2
1974	3.6	5.9	1.8	3.0	4.9	1.6	11.3	19.0	4.7
1975	3.5	5.8	1.8	3.0	4.8	1.7	9.6	17.6	3.2
1976	3.7	5.8	2.0	3.1	5.0	1.8	9.5	15.2	4.8
1977	3.5	5.5	1.9	2.9	4.5	1.6	10.5	17.7	4.9
1978	3.6	6.1	1.6	2.9	4.9	1.4	11.5	21.3	3.8
1979	3.7	6.2	1.9	3.1	5.1	1.7	11.4	20.1	4.5
1980	3.7	5.9	2.0	3.0	4.9	1.6	11.1	16.4	6.9
1981	3.5	5.5	2.0	2.8	4.3	1.6	12.3	19.4	6.8
1982	3.7	5.9	1.9	2.9	4.6	1.6	12.1	20.3	5.6
1983	3.7	6.3	1.7	3.0	5.0	1.5	11.2	20.3	3.9
1984	3.6	5.7	1.9	3.0	4.8	1.5	10.8	17.8	5.4
1985	3.8	6.3	1.9	3.2	5.3	1.6	11.3	19.4	5.2
1986	4.0	6.4	2.1	3.3	5.2	1.8	12.8	21.8	5.8
1987	3.9	6.4	1.9	3.3	5.4	1.6	10.3	17.9	4.4
1988	3.8	6.2	1.9	3.3	5.4	1.7	9.9	16.8	4.6
1989	3.7	6.1	1.8	3.1	5.1	1.6	9.4	15.7	4.7
1990	4.2	7.1	1.8	3.6	6.1	1.6	11.5	19.9	5.2
1991	3.9	6.3	2.0	3.6	5.7	1.8	9.1	15.3	4.5
1992	3.9	6.7	1.6	3.5	6.2	1.4	9.4	15.8	4.6
1993	4.0	6.6	1.9	3.6	5.9	1.7	9.0	15.2	4.3
1994	3.8	6.4	1.7	3.5	5.9	1.6	8.2	13.2	4.3
<u>AGE-ADJUSTED RATES, 1990-94</u>									
<u>AGE AT DIAGNOSIS:</u>									
All ages	4.0	6.6	1.8	3.6	6.0	1.6	9.4	15.8	4.6
Under 65	2.0	3.2	0.8	1.7	2.7	0.6	5.8	9.4	2.8
65 and over	22.1	38.0	10.9	20.9	35.6	10.6	42.3	74.9	20.4
All ages (world std.) ⁸	3.1	5.2	1.4	2.8	4.7	1.3	7.8	13.0	3.8
<u>AGE-SPECIFIC RATES, 1990-94</u>									
<u>AGE AT DIAGNOSIS:</u>									
0-4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15-19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25-29	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
30-34	0.1	0.2	0.1	0.2	0.3	0.1	0.2	0.3	0.0
35-39	0.4	0.7	0.0	0.3	0.6	0.0	0.9	1.9	0.0
40-44	1.1	1.8	0.5	0.8	1.3	0.3	4.1	6.4	2.1
45-49	2.6	4.3	0.9	2.0	3.5	0.5	9.2	13.8	5.2
50-54	5.7	9.5	2.1	4.6	7.7	1.6	18.6	31.0	8.0
55-59	10.9	17.6	4.6	8.9	14.6	3.4	34.6	55.0	18.3
60-64	15.7	25.3	7.1	14.2	22.7	6.4	38.7	64.2	18.6
65-69	20.2	33.2	9.5	18.0	29.0	8.8	48.5	82.6	22.5
70-74	23.5	40.0	10.8	22.5	38.0	10.6	45.9	82.8	20.4
75-79	24.4	42.9	11.8	23.8	42.2	11.5	42.5	71.1	24.9
80-84	21.8	38.5	12.6	21.2	37.2	12.7	26.7	55.9	11.2
85+	20.8	39.7	13.5	20.5	38.6	13.8	23.7	48.8	12.9

[§] SEER Program. Rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population, except where noted.

⁸ SEER Program. Rates are per 100,000 and are age-adjusted to the world standard population.

Table VIII-3
ESOPHAGUS CANCER (Invasive)

U.S. MORTALITY RATES, AGE-ADJUSTED AND AGE-SPECIFIC RATES*, BY RACE AND SEX

	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
<u>AGE-ADJUSTED RATES</u>									
<u>YEAR OF DEATH:</u>									
1973	3.0	5.0	1.4	2.5	4.2	1.2	8.3	13.9	3.7
1974	3.0	5.1	1.4	2.5	4.3	1.2	8.3	14.0	3.7
1975	3.1	5.4	1.4	2.6	4.5	1.2	8.6	15.0	3.6
1976	3.2	5.4	1.5	2.6	4.4	1.2	9.1	15.8	3.8
1977	3.2	5.3	1.5	2.6	4.3	1.2	8.9	15.5	3.8
1978	3.2	5.4	1.5	2.7	4.5	1.3	8.9	15.6	3.8
1979	3.2	5.4	1.5	2.6	4.4	1.2	9.2	16.4	3.7
1980	3.3	5.5	1.5	2.7	4.6	1.2	9.4	16.1	4.3
1981	3.3	5.6	1.5	2.7	4.5	1.2	9.3	16.5	3.9
1982	3.3	5.5	1.5	2.7	4.5	1.3	9.3	16.4	4.0
1983	3.3	5.6	1.5	2.7	4.7	1.2	9.1	15.9	4.0
1984	3.3	5.7	1.5	2.7	4.7	1.3	9.4	16.6	4.2
1985	3.3	5.7	1.4	2.7	4.8	1.2	8.9	15.8	3.8
1986	3.4	5.7	1.5	2.8	4.8	1.3	9.1	16.0	4.0
1987	3.4	5.8	1.5	2.9	5.0	1.2	8.6	15.0	3.9
1988	3.4	5.9	1.5	2.9	5.0	1.3	8.8	16.2	3.4
1989	3.5	6.0	1.5	3.0	5.2	1.2	8.7	15.4	3.7
1990	3.5	6.0	1.5	3.0	5.2	1.2	8.3	14.4	3.8
1991	3.5	6.1	1.5	3.1	5.4	1.3	8.2	14.5	3.7
1992	3.5	6.2	1.5	3.1	5.5	1.2	7.7	13.3	3.6
1993	3.6	6.2	1.3	3.1	5.5	1.3	8.0	14.1	3.6
1994	3.6	6.4	1.4	3.2	5.8	1.2	7.6	13.4	3.4
<u>AGE-ADJUSTED RATES, 1990-94</u>									
<u>AGE AT DEATH:</u>									
All ages	3.5	6.2	1.5	3.1	5.5	1.2	7.9	13.9	3.6
Under 65	1.7	2.9	0.6	1.4	2.4	0.4	4.9	8.3	2.1
65 and over	20.1	35.8	9.3	18.8	33.6	8.6	35.7	64.7	17.1
All ages (world std.) ^N	2.8	4.9	1.1	2.4	4.3	0.9	6.6	11.4	3.0
<u>AGE-SPECIFIC RATES, 1990-94</u>									
<u>AGE AT DEATH:</u>									
0-4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15-19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25-29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30-34	0.1	0.1	0.0	0.1	0.2	0.0	0.1	0.1	0.1
35-39	0.3	0.5	0.1	0.2	0.4	0.1	0.6	1.0	0.2
40-44	1.0	1.7	0.3	0.8	1.4	0.2	2.7	4.2	1.3
45-49	2.4	4.2	0.7	1.8	3.3	0.4	8.0	14.0	3.0
50-54	5.2	9.1	1.6	3.9	6.9	1.1	17.2	30.4	6.5
55-59	9.1	15.4	3.2	7.2	12.5	2.3	26.8	46.2	11.6
60-64	14.0	23.4	5.7	12.0	20.4	4.5	34.7	57.3	17.5
65-69	17.7	31.0	6.9	15.9	28.0	5.9	38.7	67.5	17.6
70-74	20.4	36.1	8.6	19.0	33.6	7.8	38.7	69.8	18.0
75-79	21.4	38.4	10.2	20.6	36.9	9.8	32.7	61.3	15.8
80-84	22.4	41.0	12.4	21.7	39.7	12.1	31.5	59.8	16.9
85+	23.0	42.1	15.6	22.8	41.5	15.7	24.6	49.8	14.2

* NCHS public use tape. Rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population, except where noted.

^N NCHS public use tape. Rates are per 100,000 and are age-adjusted to the world standard population.

Table VIII-4
ESOPHAGUS CANCER (Invasive)

SURVIVAL RATES, BY RACE, SEX, DIAGNOSIS YEAR, STAGE AND AGE

	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
<u>5-YR RELATIVE SURVIVAL RATES</u>									
YEAR OF DIAGNOSIS:									
1960-63 ^a	-	-	-	4	4	6	1	0	2
1970-73 ^a	-	-	-	4	4	4	4	4	3
1974-76 ^b	4.6	3.6	6.9	4.9	4.1	6.7	4.0	2.1	9.0
1977-79 ^b	5.1	4.8	5.9	5.7	5.7	5.7	2.8	2.4	4.3
1980-82 ^b	6.8	6.2	8.3	7.5	6.9	8.9	5.4	4.6	7.3
1983-85 ^b	8.3	7.0	11.7	9.5	8.0	13.3	5.9	4.9	8.7
1986-93 ^b	10.8 S	10.9 S	10.8 S	11.8 S	12.1 S	11.1 S	7.9 S	7.5 S	8.8
1986-93 ^b									
ALL STAGES	10.8	10.9	10.8	11.8	12.1	11.1	7.9	7.5	8.8
LOCALIZED	22.7	24.1	19.5	26.3	28.9	20.5	13.2	12.0	16.2
REGIONAL	10.4	10.9	8.9	11.3	11.5	10.4	6.8	9.1	1.9
DISTANT	1.6	1.8	1.1	1.5	1.6	0.8	2.1	2.3	1.5
UNSTAGED	10.0	9.1	11.9	10.2	10.1	10.5	9.2	7.0	14.7
<u>STAGE DISTRIBUTION (%) 1986-93^b</u>									
ALL STAGES									
Number of cases	6,381	4,667	1,714	4,776	3,452	1,324	1,306	966	340
Percent	100%	100%	100%	100%	100%	100%	100%	100%	100%
LOCALIZED	24	24	26	23	23	25	28	27	31
REGIONAL	24	25	22	24	25	22	23	22	23
DISTANT	26	28	21	26	28	19	28	28	25
UNSTAGED	26	24	31	27	24	34	22	23	21
<u>5-YR RELATIVE SURVIVAL RATES, 1986-93^b</u>									
AGE AT DIAGNOSIS:									
<45	16.5	15.6	22.3 [†]	18.8	17.5	-	11.6	12.9 [†]	-
45-54	12.0	10.5	18.7	15.3	13.2	26.0 [†]	6.7	5.3	11.1
55-64	11.9	12.3	10.6	13.6	14.2	11.7	7.6	7.6	7.7
65-74	10.5	10.6	10.2	10.9	11.0	10.8	8.2	9.5	5.0
75+	7.8	7.4	8.3	8.2	8.6	7.8	7.6	4.7	12.7 [†]
Under 65	12.2	11.9	13.1	14.3	14.1	15.1	7.7	7.0	9.5
65 and over	9.6	9.7	9.4	10.0	10.3	9.3	8.2	8.4	7.4

^a

^b

Rates are based on End Results data from a series of hospital registries and one population-based registry.

Rates are from the SEER Program. They are based on data from population-based registries in Connecticut, New Mexico, Utah, Iowa, Hawaii, Atlanta, Detroit, Seattle-Puget Sound and San Francisco-Oakland. Rates are based on follow-up of patients through 1994.

S The difference in rates between 1974-76 and 1986-93 is statistically significant ($p < .05$).

[†] The standard error of the survival rate is between 5 and 10 percentage points.

[†] The standard error of the survival rate is greater than 10 percentage points.

- Statistic could not be calculated.

Table VIII-5
ESOPHAGUS CANCER (Invasive)

INCIDENCE, MORTALITY, AND SURVIVAL RATES

By Year of Diagnosis/Death

All Races, Males and Females

	Year of Diagnosis/Death																					
	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Incidence																						
SEER	3.4	3.6	3.5	3.7	3.5	3.6	3.7	3.7	3.5	3.7	3.7	3.6	3.8	4.0	3.9	3.8	3.7	4.2	3.9	3.9	4.0	3.8
Mortality																						
U.S.	3.0	3.0	3.1	3.2	3.2	3.2	3.2	3.3	3.3	3.3	3.3	3.3	3.3	3.4	3.4	3.4	3.5	3.5	3.5	3.5	3.6	3.6
SEER	3.1	3.2	3.3	3.4	3.5	3.3	3.1	3.3	3.5	3.2	3.3	3.2	3.2	3.4	3.5	3.5	3.5	3.5	3.4	3.5	3.4	3.7
Relative Survival Rates (SEER)																						
1-year	25.2	29.6	27.9	28.8	27.4	24.1	29.8	30.3	25.5	32.4	31.5	37.6	36.5	35.2	36.0	36.3	39.1	39.7	42.3	41.9	38.7	
2-year	11.1	15.3	10.2	13.4	11.1	10.5	12.6	14.3	12.1	15.1	15.3	17.0	21.2	19.7	18.4	20.7	20.4	20.5	21.8	24.4		
3-year	5.9	9.0	6.8	8.6	7.4	6.4	8.9	8.9	8.8	10.9	10.6	12.3	13.7	15.0	12.4	14.1	14.8	14.7	15.4			
4-year	4.9	6.2	5.0	6.5	6.2	5.2	6.4	7.3	7.5	9.2	8.0	10.9	10.3	12.2	9.9	12.3	11.8	11.7				
5-year	4.2	5.0	3.8	4.9	5.9	4.7	4.8	5.9	6.9	7.8	6.4	9.5	9.1	10.9	9.4	10.2	10.2					
6-year	3.3	4.6	3.1	4.7	5.3	3.9	4.1	5.4	6.0	6.8	5.9	8.4	7.5	9.8	8.3	9.4						
7-year	3.3	3.9	3.1	4.5	4.7	3.5	3.3	4.9	5.6	6.8	5.4	7.1	7.1	9.0	7.5							
8-year	3.3	3.6	2.8	3.9	4.1	3.2	3.1	4.1	4.8	6.5	4.8	6.6	6.2	8.2								
9-year	2.9	3.6	2.8	3.4	3.8	2.7	3.1	4.1	4.3	5.7	4.2	6.3	5.9									
10-year	2.8	3.6	2.6	3.1	3.7	1.9	3.1	3.6	4.1	5.5	4.2	6.3										
11-year	2.8	3.1	2.4	3.1	3.1	1.9	2.9	2.9	4.0	5.3	3.9											
12-year	2.8	3.0	2.4	3.1	3.0	1.6	2.6	2.8	4.0	5.3												
13-year	2.8	3.0	2.4	3.0	3.0	1.6	2.4	2.8	3.6													
14-year	2.7	3.0	2.4	3.0	3.0	1.6	2.4	2.8														
15-year	2.7	2.8	2.4	3.0	3.0	1.6	2.4															
16-year	2.5	2.2	1.9	2.9	3.0	1.6																
17-year	2.5	2.2	1.9	2.9	3.0																	
18-year	2.5	2.2	1.9	2.9																		
19-year	2.5	2.2	1.9																			
20-year	2.5	1.7																				
21-year	2.5																					

Note: Incidence and mortality rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population.

Survival rates are relative rates expressed as percents.

Table VIII-6
ESOPHAGUS CANCER (Invasive)

INCIDENCE, MORTALITY, AND SURVIVAL RATES

By Year of Diagnosis/Death

All Races, Males

	Year of Diagnosis/Death																					
	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Incidence																						
SEER	5.5	5.9	5.8	5.8	5.5	6.1	6.2	5.9	5.5	5.9	6.3	5.7	6.3	6.4	6.4	6.2	6.1	7.1	6.3	6.7	6.6	6.4
Mortality																						
U.S.	5.0	5.1	5.4	5.4	5.3	5.4	5.4	5.5	5.6	5.5	5.6	5.7	5.7	5.7	5.8	5.9	6.0	6.0	6.1	6.2	6.2	6.4
SEER	5.1	5.5	5.7	5.5	5.8	5.7	5.4	5.5	5.7	5.1	5.7	5.3	5.5	5.7	5.7	6.1	5.8	5.8	5.8	6.2	5.7	6.6
Relative Survival Rates (SEER)																						
1-year	24.6	26.8	25.5	25.5	26.0	22.4	27.8	31.1	25.7	30.1	30.9	36.7	35.5	34.4	34.3	34.4	38.8	41.8	42.0	41.5	40.0	
2-year	9.6	13.4	8.5	11.2	9.7	8.5	12.9	14.7	12.5	14.1	15.0	15.5	20.3	20.3	17.4	19.5	19.7	21.6	21.7	24.4		
3-year	5.8	7.5	5.6	6.2	6.3	5.3	9.9	9.2	9.1	9.3	10.1	10.1	12.0	16.2	12.7	12.3	14.8	14.8	15.6			
4-year	4.7	5.9	4.3	4.4	5.4	4.4	6.9	7.7	7.4	7.3	8.2	8.6	7.9	12.9	10.1	10.9	11.8	11.8				
5-year	3.5	4.4	2.8	3.5	5.4	4.0	5.0	5.8	6.9	6.1	6.4	7.2	7.5	11.5	9.7	9.7	10.1					
6-year	3.0	4.1	2.1	3.4	4.8	3.7	3.9	5.5	6.0	5.3	5.7	6.0	6.6	10.7	8.8	8.9						
7-year	3.0	3.3	2.1	3.4	4.1	3.6	3.0	4.7	5.7	5.0	5.1	4.6	6.1	9.7	7.5							
8-year	3.0	2.8	2.0	3.1	4.0	3.2	2.6	4.3	4.7	5.0	4.8	3.9	5.6	8.4								
9-year	3.0	2.6	2.0	3.0	3.5	2.8	2.6	4.3	4.3	4.6	4.2	3.9	5.3									
10-year	2.7	2.6	1.8	3.0	3.3	2.0	2.6	3.9	3.8	4.5	4.1	3.9										
11-year	2.7	2.1	1.5	3.0	2.7	2.0	2.6	3.8	3.8	4.5	3.7											
12-year	2.7	2.1	1.5	3.0	2.7	1.5	2.6	3.6	3.8	4.5												
13-year	2.7	2.1	1.5	3.0	2.7	1.5	2.4	3.6	3.7													
14-year	2.4	2.1	1.4	3.0	2.7	1.5	2.4	3.6														
15-year	2.4	2.1	1.4	3.0	2.7	1.5	2.4															
16-year	2.0	1.5	1.4	3.0	2.7	1.4																
17-year	2.0	1.5	1.4	3.0	2.7																	
18-year	2.0	1.5	1.4	3.0																		
19-year	2.0	1.5	1.4																			
20-year	1.9	1.5																				
21-year	1.9																					

Note: Incidence and mortality rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population.

Survival rates are relative rates expressed as percents.

Table VIII-7
ESOPHAGUS CANCER (Invasive)

INCIDENCE, MORTALITY, AND SURVIVAL RATES

By Year of Diagnosis/Death

All Races, Females

Year of Diagnosis/Death

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Incidence																						
SEER	1.8	1.8	1.8	2.0	1.9	1.6	1.9	2.0	2.0	1.9	1.7	1.9	1.9	2.1	1.9	1.9	1.8	1.8	2.0	1.6	1.9	1.7
Mortality																						
U.S.	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4
SEER	1.6	1.4	1.5	1.8	1.8	1.5	1.3	1.7	1.8	1.6	1.5	1.6	1.4	1.6	1.6	1.4	1.6	1.8	1.5	1.5	1.5	1.4
Relative Survival Rates (SEER)																						
1-year	26.5	36.8	34.0	36.4	30.6	29.3	35.0	28.4	25.1	38.4	33.3	39.8	39.0	37.1	40.3	41.2	40.0	33.1	43.0	43.3	35.2	
2-year	14.7	20.0	14.5	18.5	14.4	16.2	11.7	13.3	11.2	17.8	15.9	20.7	23.7	18.3	21.1	24.0	22.1	17.4	22.2	24.4		
3-year	6.0	12.7	9.8	14.1	10.1	9.4	6.3	8.1	8.1	15.1	11.9	17.3	18.4	12.2	11.7	19.0	14.7	14.3	14.9			
4-year	5.4	6.9	6.8	11.1	8.0	7.7	5.3	6.6	7.8	13.9	7.5	16.3	16.8	10.6	9.3	15.8	11.8	11.5				
5-year	5.4	6.4	6.3	7.9	7.0	6.5	4.3	6.2	6.9	12.0	6.4	14.7	13.2	9.5	8.6	11.8	10.4					
6-year	4.1	5.9	5.8	7.6	6.6	4.5	4.3	5.2	5.9	10.6	6.4	14.1	9.8	7.7	7.1	10.4						
7-year	4.1	5.4	5.3	6.6	6.1	3.2	4.0	5.2	5.4	10.6	6.1	12.8	9.5	7.4	7.1							
8-year	3.5	5.4	4.8	5.5	4.3	3.2	4.0	3.5	5.0	10.3	4.8	12.7	7.8	7.4								
9-year	2.7	5.4	4.8	4.3	4.3	2.6	4.0	3.5	4.4	8.5	4.2	11.1	7.4									
10-year	2.7	5.4	4.3	2.8	4.3	1.8	3.7	3.1	4.4	8.1	4.2	11.1										
11-year	2.7	5.4	4.3	2.8	4.0	1.8	3.1	0.8	4.1	6.9	4.2											
12-year	2.7	4.7	4.3	2.8	3.4	1.8	2.5	0.8	4.1	6.9												
13-year	2.7	4.7	4.3	2.2	3.4	1.8	2.5	0.8	3.6													
14-year	2.7	4.7	4.3	2.2	3.4	1.8	2.5	0.8														
15-year	2.7	3.2	4.3	2.2	3.4	1.8	2.5															
16-year	2.7	3.2	2.3	2.2	3.4	1.8																
17-year	2.7	3.2	2.3	2.2	3.3																	
18-year	2.7	3.2	2.3	2.2																		
19-year	2.7	3.2	2.3																			
20-year	2.7	1.4																				
21-year	2.7																					

Note: Incidence and mortality rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population.

Survival rates are relative rates expressed as percents.

Table VIII-8
ESOPHAGUS CANCER (Invasive)

Percent Diagnosed With Cancer In 10, 20 and 30 Years and In Remaining Lifetime,
 Given Cancer Free At Current Age By Race and Sex

Lifetime Risk (Percent) of Being Diagnosed With Cancer and
 Lifetime Risk (Percent) of Dying From Cancer

SEER Areas, 1992-94

All Races

Current Age	Males				Females			
	+10 yrs	+20 yrs	+30 yrs	Eventually	+10 yrs	+20 yrs	+30 yrs	Eventually
0	0.00	0.00	0.00	0.71	0.00	0.00	0.00	0.26
10	0.00	0.00	0.01	0.72	0.00	0.00	0.00	0.26
20	0.00	0.01	0.04	0.72	0.00	0.00	0.01	0.26
30	0.01	0.04	0.15	0.74	0.00	0.01	0.03	0.26
40	0.03	0.15	0.38	0.75	0.01	0.03	0.11	0.26
50	0.12	0.37	0.61	0.75	0.03	0.10	0.18	0.26
60	0.26	0.53	0.66	0.68	0.08	0.16	0.22	0.24

Lifetime Risk of Being Diagnosed = 0.71% Lifetime Risk of Being Diagnosed = 0.26%
 Lifetime Risk of Dying = 0.68% Lifetime Risk of Dying = 0.23%

Whites

Current Age	Males				Females			
	+10 yrs	+20 yrs	+30 yrs	Eventually	+10 yrs	+20 yrs	+30 yrs	Eventually
0	0.00	0.00	0.00	0.67	0.00	0.00	0.00	0.24
10	0.00	0.00	0.01	0.68	0.00	0.00	0.00	0.24
20	0.00	0.01	0.03	0.68	0.00	0.00	0.01	0.25
30	0.01	0.03	0.13	0.69	0.00	0.01	0.03	0.25
40	0.03	0.13	0.34	0.70	0.00	0.02	0.09	0.25
50	0.11	0.32	0.56	0.70	0.02	0.09	0.17	0.25
60	0.23	0.49	0.62	0.64	0.07	0.15	0.21	0.24

Lifetime Risk of Being Diagnosed = 0.67% Lifetime Risk of Being Diagnosed = 0.24%
 Lifetime Risk of Dying = 0.67% Lifetime Risk of Dying = 0.22%

Blacks

Current Age	Males				Females			
	+10 yrs	+20 yrs	+30 yrs	Eventually	+10 yrs	+20 yrs	+30 yrs	Eventually
0	0.00	0.00	0.00	1.10	0.00	0.00	0.00	0.46
10	0.00	0.00	0.01	1.12	0.00	0.00	0.00	0.47
20	0.00	0.02	0.09	1.14	0.00	0.00	0.04	0.48
30	0.02	0.10	0.38	1.19	0.00	0.04	0.13	0.48
40	0.09	0.38	0.85	1.25	0.04	0.13	0.30	0.49
50	0.33	0.84	1.17	1.28	0.09	0.27	0.41	0.47
60	0.62	1.01	1.12	1.15	0.19	0.35	0.40	0.42

Lifetime Risk of Being Diagnosed = 1.10% Lifetime Risk of Being Diagnosed = 0.46%
 Lifetime Risk of Dying = 0.92% Lifetime Risk of Dying = 0.40%

Table VIII-9
ESOPHAGUS CANCER (Invasive)

AVERAGE ANNUAL AGE-ADJUSTED CANCER MORTALITY* RATES BY STATE, 1990-94

All Races, Males and Females

State	Rate	SE	Rank	PD
TOTAL U.S.	3.5	0.02		
High Five States				
District of Columbia	9.4⊕*	0.55	(01)	168.6
Delaware	4.7*	0.35	(02)	34.3
Maryland	4.6⊕*	0.14	(03)	31.4
South Carolina	4.2*	0.15	(04)	20.0
Virginia	4.2⊕*	0.11	(05)	20.0
Low Five States				
Arkansas	2.7⊕*	0.14	(47)	-22.9
New Mexico	2.6*	0.18	(48)	-25.7
North Dakota	2.5*	0.26	(49)	-28.6
Idaho	2.4⊕*	0.21	(50)	-31.4
Utah	1.9⊕*	0.16	(51)	-45.7

State	Rate	SE	Rank	PD	State	Rate	SE	Rank	PD
Alabama	3.2	0.12	(34)	-8.6	Montana	2.9*	0.25	(43)	-17.1
Alaska	3.8	0.53	(14)	8.6	Nebraska	3.3	0.19	(30)	-5.7
Arizona	3.2	0.12	(36)	-8.6	Nevada	3.3	0.22	(33)	-5.7
Arkansas	2.7⊕*	0.14	(47)	-22.9	New Hampshire	4.0	0.26	(07)	14.3
California	3.2⊕	0.05	(37)	-8.6	New Jersey	3.9	0.09	(13)	11.4
Colorado	3.0	0.13	(42)	-14.3	New Mexico	2.6*	0.18	(48)	-25.7
Connecticut	3.8	0.14	(16)	8.6	New York	3.9⊕	0.06	(11)	11.4
Delaware	4.7*	0.35	(02)	34.3	North Carolina	3.6	0.10	(19)	2.9
District of Columbia	9.4⊕*	0.55	(01)	168.6	North Dakota	2.5*	0.26	(49)	-28.6
Florida	3.5	0.06	(27)	0.0	Ohio	3.6	0.08	(20)	2.9
Georgia	3.9	0.11	(12)	11.4	Oklahoma	2.8⊕*	0.12	(45)	-20.0
Hawaii	2.7*	0.21	(46)	-22.9	Oregon	3.6	0.14	(21)	2.9
Idaho	2.4⊕*	0.21	(50)	-31.4	Pennsylvania	3.7	0.07	(18)	5.7
Illinois	4.0⊕	0.08	(08)	14.3	Rhode Island	3.8	0.25	(17)	8.6
Indiana	3.5	0.11	(24)	0.0	South Carolina	4.2*	0.15	(04)	20.0
Iowa	3.0	0.13	(41)	-14.3	South Dakota	3.0	0.27	(39)	-14.3
Kansas	2.8⊕*	0.14	(44)	-20.0	Tennessee	3.3	0.11	(32)	-5.7
Kentucky	3.4	0.13	(28)	-2.9	Texas	3.1⊕	0.06	(38)	-11.4
Louisiana	3.9	0.13	(09)	11.4	Utah	1.9⊕*	0.16	(51)	-45.7
Maine	4.1*	0.24	(06)	17.1	Vermont	3.6	0.34	(23)	2.9
Maryland	4.6⊕*	0.14	(03)	31.4	Virginia	4.2⊕*	0.11	(05)	20.0
Massachusetts	3.9	0.11	(10)	11.4	Washington	3.6	0.12	(22)	2.9
Michigan	3.8	0.09	(15)	8.6	West Virginia	3.3	0.17	(31)	-5.7
Minnesota	3.0	0.11	(40)	-14.3	Wisconsin	3.5	0.11	(25)	0.0
Mississippi	3.3	0.16	(29)	-5.7	Wyoming	3.2	0.37	(35)	-8.6
Missouri	3.5	0.11	(26)	0.0					

* NCHS public use tape. Rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population.

SE Standard error of the rate.

PD Percent difference between state rate and total U.S. rate.

* Absolute difference between state rate and total U.S. rate is 15% or more.

⊕ Difference between state rate and total U.S. rate is statistically significant (p<=.0002).

Table VIII-10
ESOPHAGUS CANCER (Invasive)

AVERAGE ANNUAL AGE-ADJUSTED CANCER MORTALITY* RATES BY STATE, 1990-94

All Races, Males

State	Rate	SE	Rank	PD
TOTAL U.S.	6.2	0.03		
High Five States				
District of Columbia	17.2⊕*	1.14	(01)	177.4
Delaware	7.9*	0.69	(02)	27.4
Maryland	7.8⊕*	0.27	(03)	25.8
South Carolina	7.8⊕*	0.31	(04)	25.8
Virginia	7.7⊕*	0.24	(05)	24.2
Low Five States				
Hawaii	4.7*	0.40	(47)	-24.2
New Mexico	4.7*	0.36	(48)	-24.2
Idaho	4.5*	0.42	(49)	-27.4
North Dakota	4.0*	0.48	(50)	-35.5
Utah	3.4⊕*	0.32	(51)	-45.2

State	Rate	SE	Rank	PD	State	Rate	SE	Rank	PD
Alabama	5.6	0.24	(33)	-9.7	Montana	4.8*	0.46	(46)	-22.6
Alaska	6.4	1.02	(21)	3.2	Nebraska	6.1	0.38	(25)	-1.6
Arizona	5.4	0.24	(36)	-12.9	Nevada	5.2*	0.41	(40)	-16.1
Arkansas	4.9*	0.28	(44)	-21.0	New Hampshire	7.0	0.52	(07)	12.9
California	5.4⊕	0.09	(37)	-12.9	New Jersey	6.9	0.19	(10)	11.3
Colorado	5.2*	0.27	(39)	-16.1	New Mexico	4.7*	0.36	(48)	-24.2
Connecticut	6.5	0.28	(19)	4.8	New York	6.6	0.12	(14)	6.5
Delaware	7.9*	0.69	(02)	27.4	North Carolina	6.6	0.20	(18)	6.5
District of Columbia	17.2⊕*	1.14	(01)	177.4	North Dakota	4.0*	0.48	(50)	-35.5
Florida	5.8	0.12	(31)	-6.5	Ohio	6.5	0.15	(20)	4.8
Georgia	6.6	0.22	(16)	6.5	Oklahoma	4.9⊕*	0.24	(45)	-21.0
Hawaii	4.7*	0.40	(47)	-24.2	Oregon	6.2	0.28	(22)	0.0
Idaho	4.5*	0.42	(49)	-27.4	Pennsylvania	6.6	0.14	(15)	6.5
Illinois	6.9	0.16	(09)	11.3	Rhode Island	6.6	0.51	(17)	6.5
Indiana	6.6	0.22	(13)	6.5	South Carolina	7.8⊕*	0.31	(04)	25.8
Iowa	5.6	0.27	(34)	-9.7	South Dakota	5.3	0.52	(38)	-14.5
Kansas	4.9*	0.28	(43)	-21.0	Tennessee	5.8	0.22	(30)	-6.5
Kentucky	5.8	0.25	(32)	-6.5	Texas	5.5⊕	0.12	(35)	-11.3
Louisiana	7.1	0.28	(06)	14.5	Utah	3.4⊕*	0.32	(51)	-45.2
Maine	6.9	0.46	(11)	11.3	Vermont	6.0	0.67	(26)	-3.2
Maryland	7.8⊕*	0.27	(03)	25.8	Virginia	7.7⊕*	0.24	(05)	24.2
Massachusetts	7.0	0.22	(08)	12.9	Washington	6.0	0.22	(28)	-3.2
Michigan	6.7	0.17	(12)	8.1	West Virginia	5.9	0.34	(29)	-4.8
Minnesota	5.2*	0.22	(41)	-16.1	Wisconsin	6.2	0.22	(23)	0.0
Mississippi	6.0	0.32	(27)	-3.2	Wyoming	5.0*	0.68	(42)	-19.4
Missouri	6.2	0.22	(24)	0.0					

* NCHS public use tape. Rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population.

SE Standard error of the rate.

PD Percent difference between state rate and total U.S. rate.

* Absolute difference between state rate and total U.S. rate is 15% or more.

⊕ Difference between state rate and total U.S. rate is statistically significant (p<=.0002).

Table VIII-11
ESOPHAGUS CANCER (Invasive)

AVERAGE ANNUAL AGE-ADJUSTED CANCER MORTALITY* RATES BY STATE, 1990-94

All Races, Females

State	Rate	SE	Rank	PD
TOTAL U.S.	1.5	0.01		
High Five States				
District of Columbia	3.9⊕*	0.47	(01)	160.0
Maryland	2.1⊕*	0.12	(02)	40.0
Delaware	2.1*	0.31	(03)	40.0
Maine	1.9*	0.21	(04)	26.7
New York	1.9⊕*	0.06	(05)	26.7
Low Five States				
New Mexico	1.0*	0.14	(47)	-33.3
Arkansas	1.0*	0.11	(48)	-33.3
Iowa	0.9⊕*	0.09	(49)	-40.0
Idaho	0.7⊕*	0.14	(50)	-53.3
Utah	0.6⊕*	0.12	(51)	-60.0

State	Rate	SE	Rank	PD	State	Rate	SE	Rank	PD
Alabama	1.3	0.10	(31)	-13.3	Montana	1.3	0.22	(33)	-13.3
Alaska	1.5	0.45	(22)	0.0	Nebraska	1.1*	0.14	(44)	-26.7
Arizona	1.3	0.10	(32)	-13.3	Nevada	1.5	0.20	(19)	0.0
Arkansas	1.0*	0.11	(48)	-33.3	New Hampshire	1.7	0.23	(10)	13.3
California	1.4	0.04	(28)	-6.7	New Jersey	1.5	0.07	(17)	0.0
Colorado	1.2*	0.11	(41)	-20.0	New Mexico	1.0*	0.14	(47)	-33.3
Connecticut	1.7	0.12	(08)	13.3	New York	1.9⊕*	0.06	(05)	26.7
Delaware	2.1*	0.31	(03)	40.0	North Carolina	1.4	0.08	(26)	-6.7
District of Columbia	3.9⊕*	0.47	(01)	160.0	North Dakota	1.3	0.24	(37)	-13.3
Florida	1.6	0.06	(14)	6.7	Ohio	1.4	0.06	(24)	-6.7
Georgia	1.8*	0.10	(06)	20.0	Oklahoma	1.1*	0.10	(43)	-26.7
Hawaii	1.0*	0.18	(46)	-33.3	Oregon	1.4	0.12	(23)	-6.7
Idaho	0.7⊕*	0.14	(50)	-53.3	Pennsylvania	1.5	0.06	(20)	0.0
Illinois	1.7	0.07	(07)	13.3	Rhode Island	1.7	0.21	(09)	13.3
Indiana	1.2*	0.08	(39)	-20.0	South Carolina	1.4	0.11	(27)	-6.7
Iowa	0.9⊕*	0.09	(49)	-40.0	South Dakota	1.2*	0.23	(42)	-20.0
Kansas	1.1*	0.11	(45)	-26.7	Tennessee	1.3	0.09	(36)	-13.3
Kentucky	1.5	0.11	(21)	0.0	Texas	1.3	0.05	(35)	-13.3
Louisiana	1.5	0.11	(16)	0.0	Utah	0.6⊕*	0.12	(51)	-60.0
Maine	1.9*	0.21	(04)	26.7	Vermont	1.4	0.28	(25)	-6.7
Maryland	2.1⊕*	0.12	(02)	40.0	Virginia	1.5	0.09	(18)	0.0
Massachusetts	1.7	0.09	(11)	13.3	Washington	1.6	0.10	(12)	6.7
Michigan	1.5	0.07	(15)	0.0	West Virginia	1.2*	0.13	(38)	-20.0
Minnesota	1.2*	0.09	(40)	-20.0	Wisconsin	1.4	0.09	(29)	-6.7
Mississippi	1.3	0.12	(34)	-13.3	Wyoming	1.6	0.35	(13)	6.7
Missouri	1.3	0.09	(30)	-13.3					

* NCHS public use tape. Rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population.

SE Standard error of the rate.

PD Percent difference between state rate and total U.S. rate.

* Absolute difference between state rate and total U.S. rate is 15% or more.

⊕ Difference between state rate and total U.S. rate is statistically significant (p<=.0002).

Table VIII-12
ESOPHAGUS CANCER (Invasive)AGE-ADJUSTED SEER INCIDENCE RATES§, SEER MORTALITY RATES*, AND 5-YEAR RELATIVE SURVIVAL RATES‡
By Registry, Race and Sex

	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
<u>SEER INCIDENCE RATES§, 1990-94</u>									
REGISTRY									
Standard 9 registries	4.0	6.6	1.8	3.6	6.0	1.6	9.4	15.8	4.6
San Francisco-Oakland	4.1	6.8	2.0	3.8	6.2	1.9	8.7	13.7	4.8
Connecticut	4.4	7.4	2.0	3.9	6.6	1.8	12.6	22.2	5.8
Metropolitan Detroit	5.0	8.4	2.4	4.0	6.8	1.8	9.4	15.7	4.8
Hawaii	3.1	5.2	1.1	4.0	5.6	2.5	-	-	-
Iowa	3.1	5.7	1.1	3.1	5.6	1.1	-	-	-
New Mexico	3.0	5.1	1.2	3.0	5.1	1.3	-	-	-
Seattle-Puget Sound	4.1	6.6	2.2	4.2	6.6	2.3	5.9	9.6	3.0
Utah	2.0	3.4	0.7	2.0	3.5	0.7	-	-	-
Metropolitan Atlanta	4.3	7.3	2.0	2.8	4.7	1.4	9.5	17.6	4.0
San Jose-Monterey	3.5	5.4	1.9	3.6	5.7	2.0	8.0	12.5	4.5
Los Angeles	3.4	5.4	1.8	3.0	4.8	1.6	6.6	10.5	3.9
<u>SEER MORTALITY RATES*, 1990-94</u>									
REGISTRY									
Standard 9 registries	3.5	6.0	1.5	3.2	5.6	1.3	7.7	12.8	3.9
San Francisco-Oakland	3.9	6.5	1.8	3.7	6.4	1.7	7.2	10.9	4.4
Connecticut	3.8	6.5	1.7	3.5	6.1	1.5	8.7	14.6	4.4
Metropolitan Detroit	4.1	7.2	1.8	3.2	5.9	1.3	7.6	12.8	3.9
Hawaii	2.7	4.7	1.0	3.7	5.5	1.9	-	-	-
Iowa	3.0	5.6	0.9	2.9	5.5	0.9	-	-	-
New Mexico	2.6	4.7	1.0	2.6	4.5	0.9	-	-	-
Seattle-Puget Sound	3.7	6.0	1.8	3.7	6.1	1.8	4.5	7.7	1.4
Utah	1.9	3.4	0.6	1.9	3.5	0.6	-	-	-
Metropolitan Atlanta	3.7	6.4	1.8	2.5	4.4	1.2	8.3	14.4	4.1
San Jose-Monterey	3.0	5.1	1.4	3.1	5.4	1.4	7.2	13.4	2.4
Los Angeles	3.1	5.2	1.5	2.9	4.8	1.3	5.7	9.2	3.2
<u>SURVIVAL RATES‡, 1986-93</u>									
REGISTRY									
Standard 9 registries	10.8	10.9	10.8	11.8	12.1	11.1	7.9	7.5	8.8
San Francisco-Oakland	8.9	8.8	9.3	9.6	9.4	10.1	7.6	9.0	3.9
Connecticut	10.7	10.6	11.1	11.2	10.7	12.6	8.5	10.0	0.0
Metropolitan Detroit	10.4	9.8	11.6	12.3	12.2	12.6	7.7	6.5	10.5
Hawaii	9.3	6.4	17.8†	10.0	0.0	-	-	-	-
Iowa	10.0	11.6	5.0	10.0	11.6	5.2	-	-	-
New Mexico	12.7	9.6	18.2†	13.0	10.4	17.9†	-	-	-
Seattle-Puget Sound	15.8	16.7	13.6	15.7	16.3	14.0	14.7†	17.2†	-
Utah	9.8	11.3	4.6	9.9	11.5	4.8	-	-	-
Metropolitan Atlanta	10.1	10.9	7.6	13.5	16.6	0.0	7.0	5.2	11.5

Note: San Jose-Monterey and Los Angeles are new SEER areas as of 1992 and their data are only used in this table and not other tables in this section.

§ SEER Program. Incidence rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population.

* NCHS public use tape. Mortality rates are per 100,000 and are age-adjusted to the 1970 U.S. standard population.

‡ Survival rates are relative rates expressed as percents and are based on follow-up of patients through 1994.

† The standard error of the survival rate is between 5 and 10 percentage points.

‡ The standard error of the survival rate is greater than 10 percentage points.

- Statistic could not be calculated or populations are inadequate.

SEER Incidence and U.S. Mortality Esophagus, Male By Race

White

Black

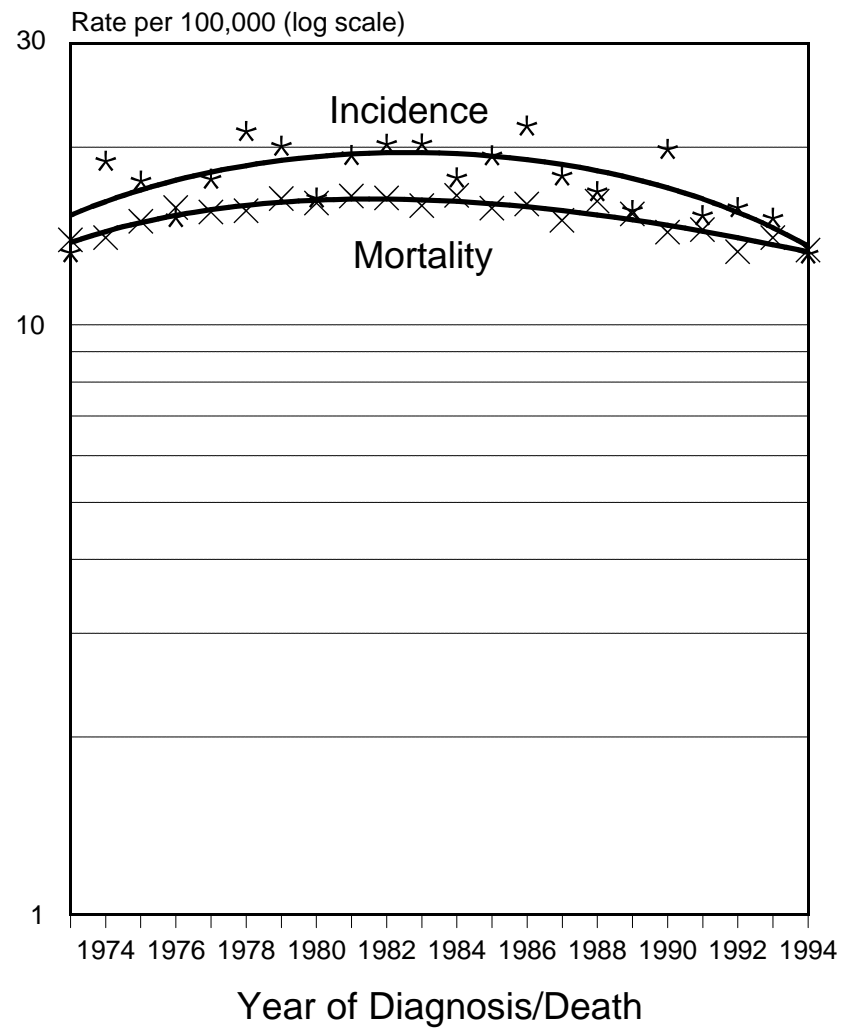
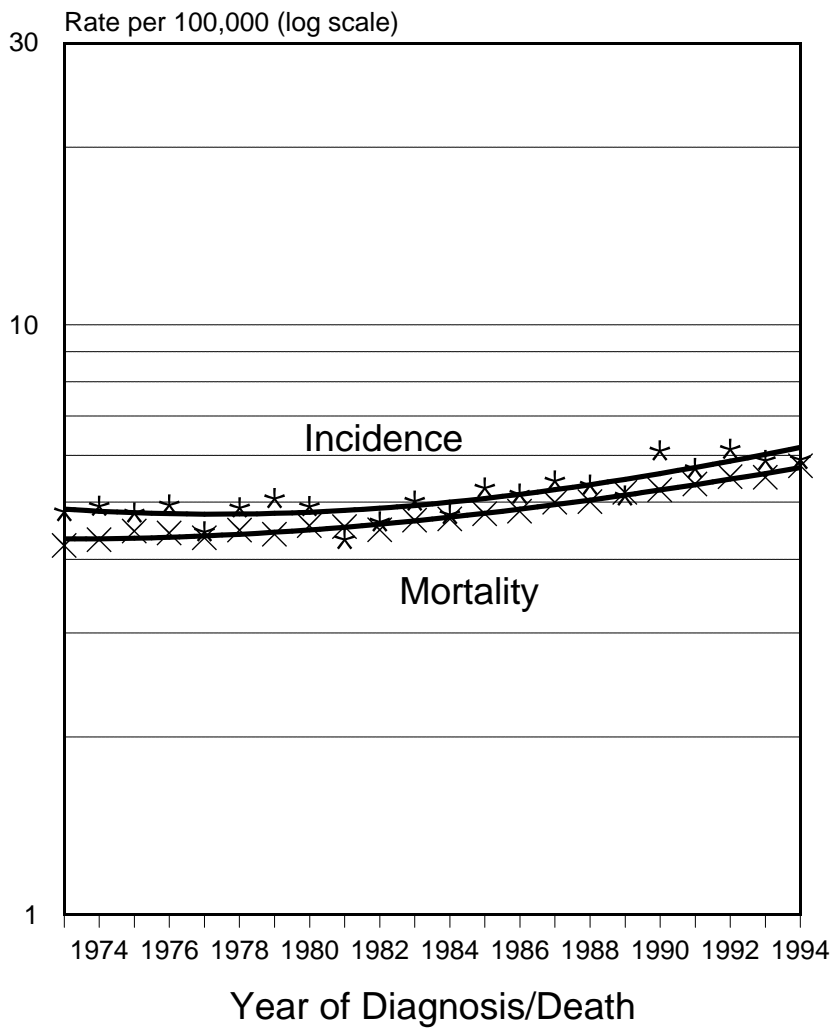


Figure VIII-1

SEER Incidence and U.S. Mortality Esophagus, Female By Race

White

Black

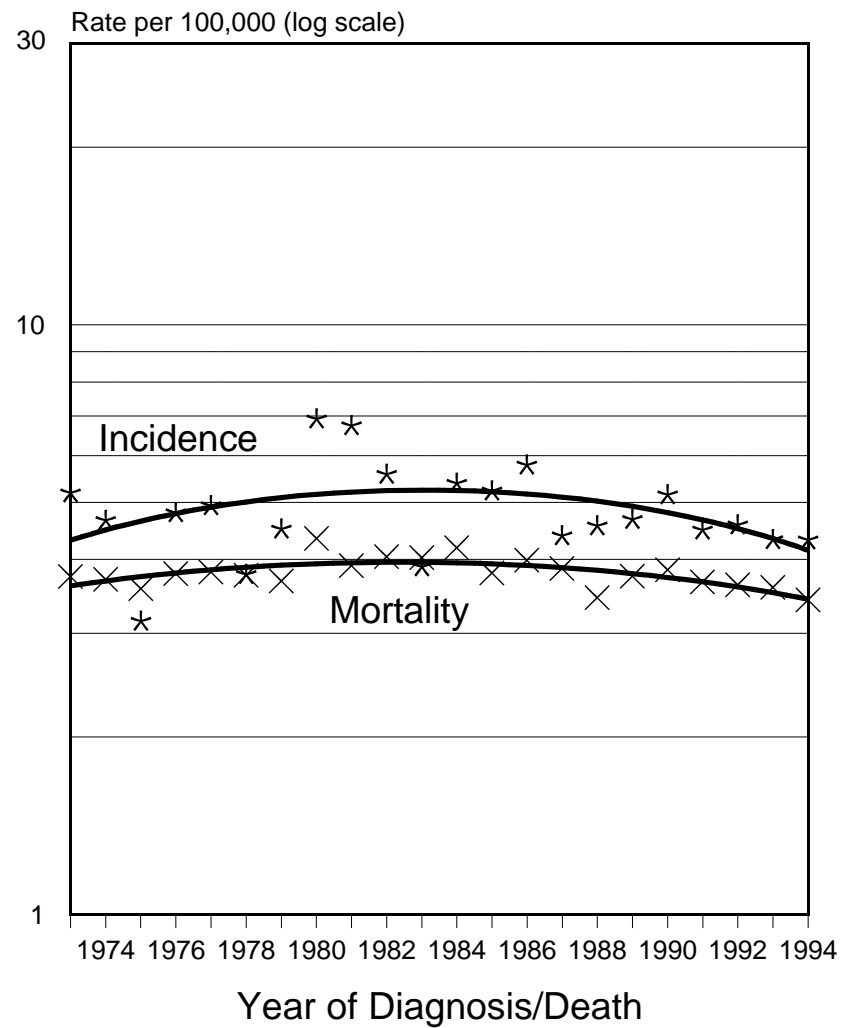
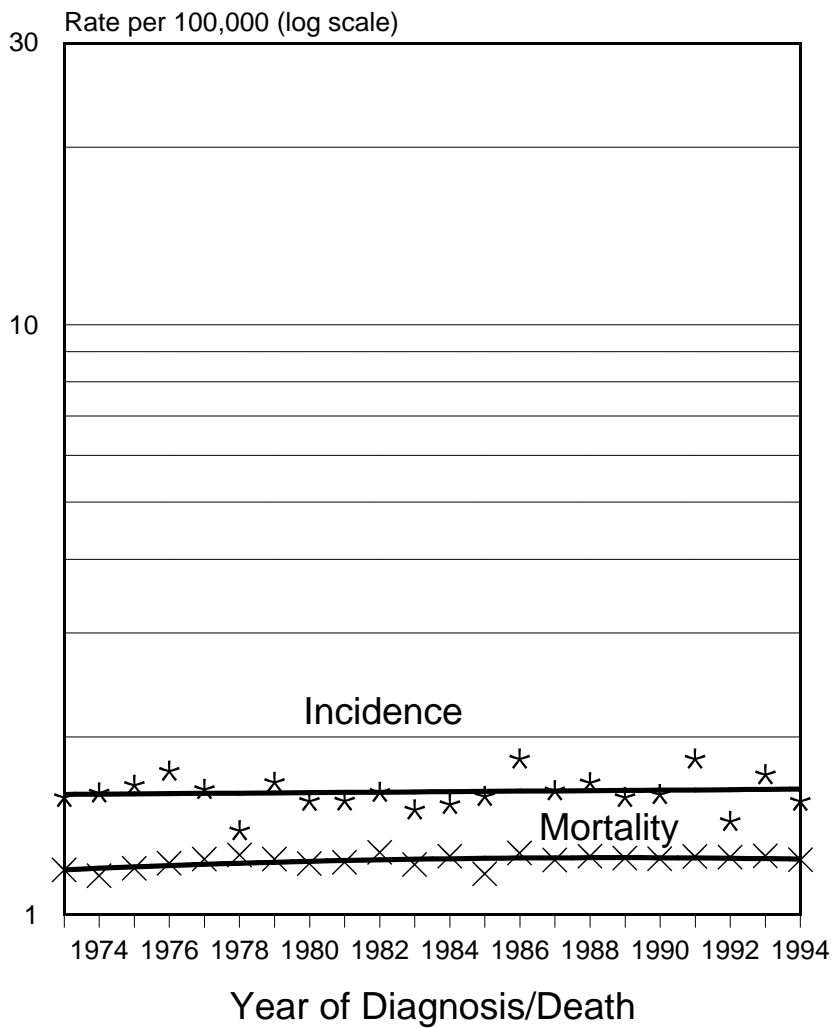


Figure VIII-2