

Table III-1
BRAIN AND OTHER NERVOUS SYSTEM CANCER (Invasive)

TRENDS IN SEER INCIDENCE^a AND U.S. MORTALITY^b USING THE JOINPOINT REGRESSION PROGRAM, 1975-2001
WITH UP TO THREE JOINPOINTS BY RACE AND SEX

		<u>Joinpoint Segment 1</u>		<u>Joinpoint Segment 2</u>		<u>Joinpoint Segment 3</u>		<u>Joinpoint Segment 4</u>	
		Year	APC	Year	APC	Year	APC	Year	APC
<u>SEER Cancer Incidence^a</u>									
All Races	Male and Female	1975-1988	1.4 ^c	1988-2001	-0.5 ^c				
All Races	Male	1975-1989	1.2 ^c	1989-2001	-0.5				
All Races	Female	1975-1987	1.7 ^c	1987-2001	-0.6 ^c				
White	Male and Female	1975-1988	1.5 ^c	1988-2001	-0.3				
White	Male	1975-1991	1.2 ^c	1991-2001	-0.6				
White	Female	1975-1987	1.9 ^c	1987-2001	-0.4				
Black	Male and Female	1975-2001	0.0						
Black	Male	1975-2001	0.1						
Black	Female	1975-2001	0.1						
<u>SEER Delay-Adjusted Incidence^a</u>									
All Races	Male and Female	1975-1987	1.5 ^c	1987-2001	-0.3				
All Races	Male	1975-1989	1.2 ^c	1989-2001	-0.3				
All Races	Female	1975-1987	1.7 ^c	1987-2001	-0.4				
White	Male and Female	1975-1987	1.6 ^c	1987-2001	0.0				
White	Male	1975-2001	0.6 ^c						
White	Female	1975-1987	1.8 ^c	1987-2001	-0.2				
Black	Male and Female	1975-2001	0.2						
Black	Male	1975-2001	0.2						
Black	Female	1975-2001	0.3						
<u>U.S. Cancer Mortality^b</u>									
All Races	Male and Female	1975-1983	0.5	1983-1991	1.3 ^c	1991-2001	-0.9 ^c		
All Races	Male	1975-1977	4.4	1977-1982	-0.4	1982-1990	1.5 ^c	1990-2001	-0.7 ^c
All Races	Female	1975-1992	0.9 ^c	1992-2001	-1.0 ^c				
White	Male and Female	1975-1992	0.9 ^c	1992-2001	-0.8 ^c				
White	Male	1975-1977	5.0 ^c	1977-1981	-0.6	1981-1991	1.3 ^c	1991-2001	-0.7 ^c
White	Female	1975-1992	1.0 ^c	1992-2001	-0.9 ^c				
Black	Male and Female	1975-1984	-0.2	1984-1987	4.5	1987-2001	-0.6 ^c		
Black	Male	1975-1990	0.7 ^c	1990-2001	-0.8				
Black	Female	1975-1991	1.3 ^c	1991-2001	-0.6				

Joinpoint Regression Program Version 2.7, September 2003, National Cancer Institute. (<http://srab.cancer.gov/joinpoint/>).

^a The APC is the Annual Percent Change based on rates age-adjusted to the 2000 U.S. standard population by 5-year age groups. Trends are from the SEER 9 areas.

^b Trends are from the NCHS public use data file for the total US.

^c The APC is significantly different from zero (p<.05).

Table III-2
BRAIN AND OTHER NERVOUS SYSTEM CANCER (Invasive)

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

	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
<u>AGE-ADJUSTED RATES</u>									
YEAR OF DIAGNOSIS:									
1975	5.9	6.8	5.0	6.2	7.3	5.3	4.1	4.3	3.9
1976	5.8	7.1	4.7	6.2	7.5	5.0	3.3	5.3	-
1977	6.2	7.8	4.9	6.6	8.3	5.3	3.5	5.2	-
1978	5.8	6.8	4.9	6.1	7.2	5.2	3.9	4.3	3.5
1979	6.1	7.4	5.0	6.6	8.0	5.4	3.7	4.2	3.2
1980	6.3	7.6	5.2	6.8	8.2	5.6	3.1	3.3	2.9
1981	6.5	8.1	5.2	6.9	8.5	5.6	5.0	7.2	3.2
1982	6.4	7.9	5.2	6.9	8.6	5.6	3.7	4.4	3.1
1983	6.3	7.6	5.2	6.9	8.2	5.8	2.7	3.8	-
1984	6.1	7.2	5.2	6.5	7.6	5.5	4.5	5.3	3.9
1985	6.9	8.5	5.6	7.4	9.1	6.1	4.9	5.6	4.2
1986	6.8	8.1	5.8	7.3	8.6	6.3	4.1	4.7	3.5
1987	7.0	8.1	6.0	7.6	8.7	6.7	4.2	5.5	3.1
1988	6.8	7.9	5.9	7.4	8.5	6.4	4.4	4.5	4.3
1989	6.9	8.5	5.4	7.4	9.2	5.9	4.9	6.0	4.0
1990	7.0	8.1	6.2	7.6	8.7	6.6	4.3	5.2	3.6
1991	6.9	8.6	5.6	7.6	9.3	6.2	3.6	4.5	3.0
1992	7.0	8.6	5.6	7.6	9.4	6.2	3.7	4.1	3.3
1993	6.8	8.1	5.7	7.4	8.9	6.1	4.0	4.1	3.8
1994	6.6	7.9	5.4	7.1	8.5	5.9	4.3	4.5	4.1
1995	6.4	7.8	5.3	7.0	8.5	5.7	3.9	5.0	3.2
1996	6.6	8.2	5.2	7.2	8.9	5.7	3.9	5.0	3.2
1997	6.7	8.0	5.6	7.4	8.8	6.1	3.9	5.1	3.1
1998	6.6	7.7	5.6	7.2	8.4	6.2	4.0	4.3	3.8
1999	6.8	8.3	5.6	7.6	9.2	6.2	3.8	5.1	2.7
2000	6.7	8.1	5.5	7.4	8.9	6.1	4.2	5.3	3.4
2001	6.4	7.7	5.2	7.0	8.4	5.8	3.6	4.8	2.8
<u>AGE-ADJUSTED RATES, 1997-2001</u>									
AGE AT DIAGNOSIS:									
All ages	6.6	8.0	5.5	7.3	8.8	6.1	3.9	4.9	3.2
Under 65	4.7	5.4	4.0	5.2	6.0	4.4	3.0	3.6	2.5
65 and over	20.0	25.6	16.1	21.9	27.8	17.8	10.3	14.1	7.9
All ages(IARC world std) ^b	5.4	6.4	4.6	6.0	7.0	5.0	3.3	4.0	2.8
<u>AGE-SPECIFIC RATES, 1997-2001</u>									
AGE AT DIAGNOSIS:									
<1	3.4	3.0	3.7	3.8	3.5	4.0	-	-	-
1-4	4.0	4.1	3.9	4.4	4.5	4.2	3.3	-	-
5-9	3.1	3.5	2.7	3.3	3.7	2.8	2.5	3.2	-
10-14	2.8	3.0	2.7	3.0	3.3	2.7	2.2	-	-
15-19	1.9	2.2	1.5	2.0	2.4	1.6	-	-	-
20-24	2.2	2.5	1.9	2.6	3.1	2.1	-	-	-
25-29	2.9	3.0	2.8	3.3	3.4	3.1	-	-	-
30-34	3.2	3.7	2.8	3.6	4.1	3.2	2.2	-	-
35-39	4.1	5.0	3.3	4.6	5.4	3.8	2.3	-	-
40-44	4.6	5.1	4.1	5.2	5.8	4.6	2.2	-	-
45-49	5.7	6.7	4.6	6.3	7.4	5.2	3.8	5.3	-
50-54	8.1	10.0	6.4	9.0	11.0	7.1	5.1	-	-
55-59	11.1	12.9	9.3	12.0	14.1	10.0	8.5	-	-
60-64	13.5	16.9	10.5	15.2	18.8	11.9	6.7	-	-
65-69	17.5	22.8	12.9	19.5	25.4	14.3	8.0	-	-
70-74	20.6	24.8	17.3	22.6	26.6	19.3	12.3	-	-
75-79	23.5	29.2	19.5	26.1	32.2	21.8	-	-	-
80-84	22.0	29.7	17.3	23.3	31.4	18.5	-	-	-
85+	16.4	22.3	13.9	17.3	24.0	14.6	-	-	-

^a SEER 9 areas. Rates are per 100,000 and are age-adjusted to the 2000 U.S. standard population by 5-year age groups, unless noted.

^b SEER 9 areas. Rates are per 100,000 and are age-adjusted to the IARC world standard population.

- Statistic not shown. Rate based on less than 25 cases for the time interval.

Table III-3
BRAIN AND OTHER NERVOUS SYSTEM CANCER (Invasive)

U.S. DEATH RATES, AGE-ADJUSTED AND AGE-SPECIFIC RATES^a, BY RACE AND SEX

	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
<u>AGE-ADJUSTED RATES</u>									
YEAR OF DEATH:									
1975	4.1	5.0	3.4	4.3	5.2	3.6	2.4	3.2	1.8
1976	4.3	5.3	3.6	4.5	5.5	3.7	2.7	3.5	2.0
1977	4.4	5.4	3.6	4.6	5.7	3.8	2.5	3.0	2.2
1978	4.5	5.5	3.7	4.8	5.8	3.9	2.7	3.4	2.2
1979	4.3	5.2	3.5	4.5	5.5	3.6	2.6	3.3	2.1
1980	4.4	5.4	3.5	4.6	5.8	3.7	2.5	3.0	2.0
1981	4.4	5.3	3.6	4.6	5.6	3.8	2.6	3.3	2.0
1982	4.4	5.4	3.7	4.7	5.7	3.9	2.6	3.4	2.1
1983	4.4	5.3	3.6	4.7	5.6	3.9	2.5	2.9	2.2
1984	4.6	5.6	3.7	4.8	5.9	4.0	2.6	3.3	1.9
1985	4.6	5.6	3.7	4.8	5.9	4.0	2.5	3.2	2.0
1986	4.5	5.6	3.7	4.8	5.9	3.9	2.8	3.5	2.3
1987	4.7	5.7	3.9	5.0	6.0	4.2	2.9	3.6	2.4
1988	4.7	5.9	3.8	5.0	6.2	4.0	2.9	3.6	2.4
1989	4.7	5.8	3.9	5.0	6.2	4.1	2.7	3.5	2.2
1990	4.9	6.0	4.0	5.2	6.3	4.2	3.0	3.7	2.4
1991	4.9	6.0	4.1	5.3	6.4	4.4	2.8	3.4	2.4
1992	4.9	5.9	4.0	5.2	6.3	4.3	2.8	3.4	2.4
1993	4.8	5.9	3.9	5.1	6.2	4.2	2.8	3.6	2.3
1994	4.8	5.9	4.0	5.2	6.3	4.3	2.7	3.2	2.3
1995	4.7	5.7	3.9	5.0	6.0	4.1	2.8	3.4	2.3
1996	4.7	5.7	3.9	5.1	6.1	4.2	2.6	3.2	2.2
1997	4.7	5.7	3.9	5.0	6.0	4.1	2.9	3.3	2.6
1998	4.7	5.7	3.8	5.0	6.1	4.1	2.7	3.4	2.2
1999	4.6	5.7	3.8	5.0	6.0	4.1	2.7	3.3	2.3
2000	4.5	5.6	3.7	4.9	6.0	3.9	2.7	3.3	2.2
2001	4.4	5.5	3.6	4.8	5.9	3.9	2.6	3.1	2.2
<u>AGE-ADJUSTED RATES, 1997-2001</u>									
AGE AT DEATH:									
All ages	4.6	5.6	3.8	4.9	6.0	4.0	2.7	3.3	2.3
Under 65	2.7	3.2	2.1	2.9	3.5	2.3	1.7	2.1	1.3
65 and over	17.9	22.1	15.0	19.0	23.4	15.9	9.9	11.6	8.8
All ages(IARC world std) ^b	3.3	4.0	2.7	3.6	4.3	2.9	2.0	2.5	1.7
<u>AGE-SPECIFIC RATES, 1997-2001</u>									
AGE AT DEATH:									
<1	0.5	0.5	0.4	0.5	0.5	0.4	-	-	-
1-4	0.7	0.7	0.7	0.7	0.8	0.7	0.6	0.5	0.6
5-9	0.8	0.8	0.8	0.9	0.8	0.9	0.9	0.9	0.8
10-14	0.7	0.7	0.6	0.7	0.7	0.7	0.6	0.6	0.6
15-19	0.5	0.6	0.4	0.6	0.7	0.4	0.5	0.6	0.4
20-24	0.6	0.7	0.5	0.6	0.7	0.5	0.6	0.7	0.5
25-29	0.8	1.0	0.7	0.9	1.1	0.8	0.5	0.7	0.5
30-34	1.3	1.7	0.9	1.4	1.8	1.1	0.8	1.0	0.5
35-39	1.9	2.4	1.5	2.2	2.7	1.7	1.0	1.1	0.8
40-44	2.8	3.5	2.1	3.0	3.8	2.3	1.8	2.3	1.4
45-49	4.2	5.1	3.2	4.5	5.6	3.5	2.4	3.1	1.9
50-54	6.2	7.5	4.9	6.7	8.0	5.4	3.6	4.8	2.6
55-59	8.7	10.6	7.0	9.4	11.4	7.5	5.5	6.6	4.6
60-64	11.7	14.3	9.5	12.7	15.3	10.3	6.8	8.6	5.3
65-69	15.2	18.6	12.4	16.4	19.9	13.3	8.2	9.4	7.3
70-74	18.2	22.4	15.0	19.4	23.7	16.0	10.1	12.9	8.3
75-79	20.3	25.1	17.1	21.5	26.4	18.1	10.7	12.8	9.4
80-84	20.2	25.1	17.4	21.2	26.4	18.1	11.2	11.4	11.1
85+	16.1	20.9	14.2	16.7	21.8	14.7	10.4	12.1	9.8

^a NCHS public use data file for the total US. Rates are per 100,000 and are age-adjusted to the 2000 U.S. standard population by 5-year age groups, unless noted.

^b NCHS public use data file for the total US. Rates are per 100,000 and are age-adjusted to the IARC world standard population.

- Statistic not shown. Rate based on less than 25 cases for the time interval.

Table III-4
BRAIN AND OTHER NERVOUS SYSTEM 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:									
1960-1963 ^a	-	-	-	18	16	21	19	17	21
1970-1973 ^a	-	-	-	20	18	22	19	19	19
1974-1976 ^b	22.3	20.4	24.7	22.1	20.4	24.2	26.5	17.0	39.5 ^d
1977-1979 ^b	24.6	23.0	26.5	23.9	22.5	25.7	27.9	25.0	31.0 ^d
1980-1982 ^b	25.4	24.5	26.5	24.6	23.8	25.7	31.1	33.9	27.2 ^d
1983-1985 ^b	26.6	25.3	28.3	26.0	24.9	27.3	32.3	31.8	33.0 ^d
1986-1988 ^b	30.8	29.1	32.8	30.1	28.0	32.6	32.6	35.7	28.9
1989-1991 ^b	31.0	31.3	30.6	30.2	30.1	30.3	38.4	41.1	35.4
1992-1994 ^b	32.8	33.5	31.9	32.1	32.5	31.5	40.4	44.1	36.8
1995-2000 ^b	33.0 ^c	32.7 ^c	33.4 ^c	32.2 ^c	32.0 ^c	32.5 ^c	37.7 ^c	38.3 ^c	36.8
<u>5-YR RELATIVE SURVIVAL RATES, 1995-2000^b</u>									
AGE AT DIAGNOSIS:									
<45	62.7	61.1	64.8	63.3	62.0	65.0	56.8	55.7	58.1 ^d
45-54	25.0	22.9	28.4	25.0	22.6	29.2	25.6 ^d	29.8 ^d	19.5 ^d
55-64	14.0	13.8	14.3	13.6	13.5	13.8	11.8	5.8 ^d	16.1 ^d
65-74	6.8	6.4	7.2	6.8	6.1	7.7	-	-	-
75+	3.9	3.7	4.0	3.5	3.1	3.9	14.7 ^d	-	-
Under 65	43.3	41.4	46.1	42.9	41.1	45.6	42.8	42.4	43.3
65 and over	5.6	5.4	5.7	5.5	5.0	5.9	9.4	9.9 ^d	8.9 ^d

- ^a Rates are based on End Results data from a series of hospital registries and one population-based registry.
^b Rates are from the SEER 9 areas. 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 into 2001.
^c The difference in rates between 1974-1976 and 1995-2000 is statistically significant ($p < .05$).
^d The standard error of the survival rate is between 5 and 10 percentage points.
^e The standard error of the survival rate is greater than 10 percentage points.
- Statistic could not be calculated.

Table III-5
BRAIN AND OTHER NERVOUS SYSTEM CANCER (Invasive)

SURVIVAL RATES^a

By Year of Diagnosis

All Races, Males and Females

Year of Diagnosis

	1975- 1979	1980- 1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Relative Survival Rates (SEER ^b)																		
1-year	47.6	48.8	49.1	53.6	52.7	54.0	52.4	54.4	54.9	53.2	53.4	54.4	53.0	54.3	52.4	54.9	55.5	55.3
2-year	32.7	34.7	34.2	38.2	38.6	39.3	37.7	37.9	40.9	40.0	39.2	40.7	39.4	40.8	38.3	41.1	39.4	
3-year	28.6	30.2	30.5	33.2	34.9	36.0	33.2	33.0	37.4	35.9	35.8	37.1	36.4	37.4	34.5	36.0		
4-year	26.1	27.6	27.8	30.9	32.5	33.8	30.3	31.2	35.5	33.1	34.1	35.0	34.9	35.3	32.6			
5-year	24.2	26.0	26.1	29.8	31.0	31.6	29.2	29.9	33.8	32.0	32.9	33.5	34.4	33.8				
6-year	22.9	24.8	25.0	28.9	29.6	30.5	28.3	29.4	32.9	30.2	32.3	33.1	33.7					
7-year	22.1	23.9	24.2	28.5	28.2	29.5	27.9	28.5	32.5	29.4	31.3	31.6						
8-year	21.3	23.1	22.9	27.4	27.8	28.4	27.2	28.2	31.9	28.7	31.3							
9-year	20.5	22.3	22.7	26.3	27.7	27.6	27.1	27.8	31.9	27.7								
10-year	20.1	21.6	22.1	25.7	27.7	27.3	26.6	27.4	31.1									
11-year	19.8	21.2	22.1	25.7	27.0	27.2	26.2	27.0										
12-year	19.5	21.0	21.6	25.7	26.5	27.2	26.2											
13-year	19.4	20.6	21.2	25.7	26.2	27.1												
14-year	19.4	20.5	21.2	25.6	26.2													
15-year	19.1	20.3	20.6	25.5														
16-year	19.1	20.0	20.6															
17-year	19.0	20.0																
18-year	19.0																	
19-year	19.0																	
20-year	19.0																	

^a Survival rates are relative rates expressed as percents.
^b Rates are from the SEER 9 areas.

Table III-6
BRAIN AND OTHER NERVOUS SYSTEM CANCER (Invasive)

SURVIVAL RATES^a

By Year of Diagnosis

All Races, Males

Year of Diagnosis

	1975- 1979	1980- 1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Relative Survival Rates (SEER ^b)																		
1-year	47.5	49.8	49.6	54.5	52.3	53.2	54.2	57.4	56.7	55.3	55.1	55.7	55.0	55.9	55.6	55.2	55.4	54.3
2-year	31.9	34.6	33.2	39.1	36.8	36.7	38.7	40.0	40.8	40.6	41.0	41.1	40.9	39.9	40.0	40.3	38.3	
3-year	27.2	30.3	29.2	33.9	32.7	33.5	33.8	34.1	37.3	36.8	37.0	37.7	37.8	36.5	35.5	36.0		
4-year	25.0	27.2	25.9	31.0	30.6	31.4	30.0	32.3	35.6	34.3	34.9	35.9	36.9	34.5	33.6			
5-year	22.8	25.2	23.8	29.4	29.3	28.8	29.1	31.1	33.6	33.2	32.9	34.3	36.1	32.5				
6-year	21.5	24.1	23.0	28.3	28.0	27.5	28.2	31.1	33.2	31.2	32.0	34.1	35.1					
7-year	20.8	23.4	22.3	28.0	26.4	26.2	27.6	29.6	32.2	30.1	31.6	32.9						
8-year	19.9	22.7	21.3	27.3	25.9	24.8	27.1	29.6	31.5	29.5	31.6							
9-year	19.1	21.8	21.1	26.5	25.9	24.4	27.1	29.6	31.5	28.3								
10-year	18.8	21.1	20.5	25.9	25.8	24.0	26.9	29.0	31.1									
11-year	18.3	21.0	20.5	25.8	25.1	23.8	26.8	29.0										
12-year	18.1	20.7	20.5	25.8	24.1	23.8	26.8											
13-year	17.9	20.4	20.5	25.8	24.1	23.8												
14-year	17.9	20.1	20.1	25.8	24.1													
15-year	17.9	20.0	19.9	25.8														
16-year	17.9	19.8	19.8															
17-year	17.9	19.7																
18-year	17.9																	
19-year	17.9																	
20-year	17.9																	

^a Survival rates are relative rates expressed as percents.
^b Rates are from the SEER 9 areas.

Table III-7
BRAIN AND OTHER NERVOUS SYSTEM CANCER (Invasive)

SURVIVAL RATES^a

By Year of Diagnosis

All Races, Females

Year of Diagnosis

	1975- 1979	1980- 1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Relative Survival Rates (SEER ^b)																		
1-year	47.8	47.5	48.5	52.4	53.3	54.8	50.0	50.8	52.4	50.3	51.4	52.6	50.4	52.1	48.3	54.5	55.7	56.6
2-year	33.8	35.0	35.4	37.2	40.6	42.5	36.3	35.4	41.0	39.3	36.9	40.3	37.4	41.9	36.2	41.9	40.8	
3-year	30.3	30.1	32.2	32.5	37.5	39.0	32.5	31.8	37.4	34.8	34.4	36.4	34.6	38.5	33.3	36.1		
4-year	27.5	28.1	30.1	30.9	34.8	36.6	30.7	30.1	35.2	31.6	33.0	33.8	32.4	36.4	31.3			
5-year	26.0	27.1	29.0	30.3	33.0	35.1	29.2	28.6	34.1	30.4	32.7	32.6	32.2	35.4				
6-year	24.6	25.7	27.6	29.6	31.5	34.2	28.3	27.4	32.5	28.9	32.5	31.8	31.8					
7-year	23.7	24.5	26.6	29.2	30.3	33.4	28.3	27.1	32.5	28.4	30.9	30.1						
8-year	23.0	23.6	25.1	27.4	30.0	32.7	27.4	26.2	32.3	27.6	30.9							
9-year	22.2	23.0	24.6	26.1	29.7	31.4	27.0	25.7	32.2	26.9								
10-year	21.7	22.3	24.0	25.5	29.7	31.4	26.1	25.5	31.1									
11-year	21.5	21.5	24.0	25.4	29.0	31.2	25.4	24.6										
12-year	21.2	21.3	22.7	25.2	29.0	31.2	25.3											
13-year	21.2	20.8	22.1	25.2	28.3	31.2												
14-year	20.8	20.8	22.1	24.8	28.3													
15-year	20.6	20.6	21.5	24.2														
16-year	20.4	20.4	21.5															
17-year	20.0	20.4																
18-year	20.0																	
19-year	20.0																	
20-year	20.0																	

^a Survival rates are relative rates expressed as percents.
^b Rates are from the SEER 9 areas.

Table III-8
BRAIN AND OTHER NERVOUS SYSTEM 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 (12 SEER Areas) With Cancer and
 Lifetime Risk (Percent) of Dying (Total U.S.) From Cancer

1999-2001

All Races

Current Age	Males				Females			
	+10 yrs	+20 yrs	+30 yrs	Eventually	+10 yrs	+20 yrs	+30 yrs	Eventually
0	0.03	0.06	0.09	0.67	0.03	0.05	0.07	0.51
10	0.03	0.05	0.09	0.64	0.02	0.04	0.07	0.48
20	0.03	0.07	0.12	0.62	0.02	0.05	0.09	0.46
30	0.04	0.10	0.20	0.60	0.03	0.07	0.14	0.45
40	0.06	0.16	0.31	0.57	0.04	0.11	0.21	0.42
50	0.11	0.26	0.43	0.53	0.07	0.17	0.29	0.39
60	0.17	0.35	0.44	0.45	0.10	0.23	0.31	0.33

Lifetime Risk of Being Diagnosed = 0.67%
 Lifetime Risk of Dying = 0.49%

Lifetime Risk of Being Diagnosed = 0.51%
 Lifetime Risk of Dying = 0.39%

Whites

Current Age	Males				Females			
	+10 yrs	+20 yrs	+30 yrs	Eventually	+10 yrs	+20 yrs	+30 yrs	Eventually
0	0.04	0.07	0.09	0.75	0.04	0.06	0.08	0.57
10	0.03	0.06	0.10	0.72	0.02	0.05	0.08	0.54
20	0.03	0.07	0.14	0.69	0.02	0.06	0.11	0.52
30	0.04	0.11	0.23	0.67	0.03	0.08	0.16	0.50
40	0.07	0.18	0.35	0.64	0.05	0.12	0.23	0.47
50	0.12	0.30	0.49	0.59	0.08	0.19	0.33	0.43
60	0.19	0.39	0.49	0.50	0.12	0.27	0.35	0.37

Lifetime Risk of Being Diagnosed = 0.75%
 Lifetime Risk of Dying = 0.53%

Lifetime Risk of Being Diagnosed = 0.57%
 Lifetime Risk of Dying = 0.42%

Blacks

Current Age	Males				Females			
	+10 yrs	+20 yrs	+30 yrs	Eventually	+10 yrs	+20 yrs	+30 yrs	Eventually
0	0.02	0.04	0.05	0.33	0.03	0.04	0.05	0.28
10	0.02	0.03	0.06	0.31	0.02	0.03	0.04	0.26
20	0.01	0.04	0.08	0.30	0.01	0.02	0.04	0.24
30	0.03	0.07	0.13	0.29	0.01	0.03	0.09	0.23
40	0.05	0.11	0.18	0.27	0.02	0.08	0.14	0.22
50	0.07	0.14	0.21	0.24	0.06	0.13	0.17	0.21
60	0.09	0.17	0.21	0.21	0.07	0.12	0.16	0.16

Lifetime Risk of Being Diagnosed = 0.33%
 Lifetime Risk of Dying = 0.23%

Lifetime Risk of Being Diagnosed = 0.28%
 Lifetime Risk of Dying = 0.21%

Table III-9
BRAIN AND OTHER NERVOUS SYSTEM CANCER (Invasive)

AGE-ADJUSTED SEER INCIDENCE AND U.S. DEATH RATES

By Race/Ethnicity and Sex

Incidence^a

RACE/ETHNICITY	Rate 1997-2001			Trend 1992-2001		
	Rate per 100,000 persons			APC (%)		
	Total	Males	Females	Total	Males	Females
All Races	6.4	7.6	5.3	-0.7	-0.7	-0.6
White	7.1	8.4	6.0	-0.4	-0.5	-0.3
White Hispanic ^b	5.3	6.0	4.7	0.2	0.4	-0.3
White Non-Hispanic ^b	7.5	9.0	6.2	-0.2	-0.3	-0.1
Black	4.0	4.6	3.4	-0.6	0.1	-0.9
Asian/Pacific Islander	3.3	4.0	2.7	-2.2 ^d	-0.9	-3.6 ^d
Amer Ind/Alaska Nat	2.5	3.0	2.3	-	-	-
Hispanic ^b	5.1	5.8	4.6	0.3	0.4	-0.1

Mortality^c

RACE/ETHNICITY	Rate 1997-2001			Trend 1992-2001		
	Rate per 100,000 persons			APC (%)		
	Total	Males	Females	Total	Males	Females
All Races	4.6	5.6	3.8	-0.8 ^d	-0.7 ^d	-1.1 ^d
White	4.9	6.0	4.0	-0.7 ^d	-0.6 ^d	-1.0 ^d
White Hispanic ^b	3.1	3.7	2.6	0.6	0.5	0.6
White Non-Hispanic ^b	5.1	6.3	4.2	-0.7 ^d	-0.5 ^d	-0.9 ^d
Black	2.7	3.3	2.3	-0.6	-0.8 ^d	-0.5
Asian/Pacific Islander	1.9	2.3	1.5	-0.6	1.8	-3.1
Amer Ind/Alaska Nat	2.2	2.7	1.8	2.0	3.0	-
Hispanic ^b	3.0	3.6	2.5	0.7	0.6	0.8

The APC is the Annual Percent Change over the time interval.

- Statistic not shown. Rate based on less than 25 cases for the time interval. Trend based on less than 10 cases for at least one year within the time interval.

^a Incidence data are from the 12 SEER areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, and Alaska Native Registry).

^b Hispanic and Non-Hispanic are not mutually exclusive from Whites, Blacks, Asian Pacific Islanders, and American Indians/Alaska Natives. Incidence data for Hispanics and Non-Hispanics do not include cases from Detroit, Hawaii and Alaska Native Registry. For mortality, information is included for all states except Connecticut, Maine, Maryland, Oklahoma, New York, New Hampshire, North Dakota and Vermont.

^c Mortality data are analyzed from a public use file provided by the National Center for Health Statistics (NCHS).

^d The APC is significantly different from zero (p<.05).

Table III-10
BRAIN AND OTHER NERVOUS SYSTEM CANCER (Invasive)

AGE-ADJUSTED SEER INCIDENCE RATES^a AND SEER DEATH RATES^b
 By Registry, Race and Sex

	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
<u>SEER INCIDENCE RATES^a, 1997-2001</u>									
REGISTRY									
12 registries	6.4	7.6	5.3	7.1	8.4	6.0	4.0	4.6	3.4
11 registries	6.4	7.6	5.3	7.1	8.4	6.0	4.0	4.6	3.4
9 registries	6.6	8.0	5.5	7.3	8.8	6.1	3.9	4.9	3.2
San Francisco-Oakland	6.3	7.7	5.1	7.3	8.8	6.0	4.4	6.6	2.8
Connecticut	7.2	8.8	5.9	7.5	9.2	6.1	3.8	4.3	3.6
Metropolitan Detroit	6.7	8.1	5.5	7.4	8.9	6.1	4.3	5.2	3.5
Hawaii	4.6	5.4	3.9	7.9	9.3	6.5	-	-	-
Iowa	7.1	8.5	5.9	7.1	8.5	6.0	-	-	-
New Mexico	5.5	6.5	4.7	5.8	6.9	4.9	-	-	-
Seattle-Puget Sound	7.4	9.0	6.1	7.9	9.6	6.5	3.2	-	-
Utah	7.1	8.2	6.2	7.3	8.4	6.4	-	-	-
Metropolitan Atlanta	5.9	7.0	5.0	7.3	8.3	6.2	3.3	4.0	2.8
San Jose-Monterey	6.3	7.5	5.3	7.2	8.4	6.1	-	-	-
Los Angeles	5.7	6.6	4.9	6.5	7.5	5.6	4.2	4.0	4.3
<u>SEER DEATH RATES^b, 1997-2001</u>									
REGISTRY									
12 registries	4.5	5.5	3.6	5.0	6.1	4.1	2.8	3.3	2.4
11 registries	4.5	5.5	3.6	5.0	6.1	4.1	2.8	3.3	2.4
9 registries	4.5	5.6	3.6	5.0	6.2	4.0	2.6	3.3	2.1
San Francisco-Oakland	4.3	5.8	3.1	5.1	6.6	3.8	3.2	5.3	-
Connecticut	4.2	5.4	3.4	4.4	5.7	3.5	2.2	-	-
Metropolitan Detroit	4.6	5.5	3.9	5.1	6.1	4.4	2.7	3.2	2.2
Hawaii	2.7	3.1	2.3	4.5	5.7	3.3	-	-	-
Iowa	5.3	6.5	4.2	5.3	6.5	4.3	-	-	-
New Mexico	3.8	4.4	3.2	4.0	4.7	3.4	-	-	-
Seattle-Puget Sound	5.7	7.2	4.5	6.0	7.6	4.7	-	-	-
Utah	4.4	5.4	3.6	4.5	5.5	3.7	-	-	-
Metropolitan Atlanta	4.0	4.8	3.2	4.6	5.5	3.7	2.3	2.6	2.2
San Jose-Monterey	4.3	5.5	3.4	5.0	6.2	4.0	-	-	-
Los Angeles	4.4	5.1	3.7	5.0	5.9	4.2	3.4	3.3	3.4

Note: San Jose-Monterey and Los Angeles are new SEER areas as of 1992 and their data are only used in tables where indicated.

^a SEER 9 areas. Incidence rates are per 100,000 and are age-adjusted to the 2000 U.S. standard population by 5-year age groups.

^b NCHS public use data file for the total US. Death rates are per 100,000 and are age-adjusted to the 2000 U.S. standard population by 5-year age groups.

- Statistic could not be calculated or populations are inadequate.

Table III-11
BRAIN AND OTHER NERVOUS SYSTEM CANCER (Invasive)

AVERAGE ANNUAL AGE-ADJUSTED CANCER DEATH^a RATES BY STATE, ALL RACES, 1997-2001

Males and Females

State	Rate	SE	Rank	PD
TOTAL U.S.	4.6	0.02		
High Five States				
South Dakota	5.9 ^b	0.39	(01)	28.3
North Dakota	5.8 ^b	0.42	(02)	26.1
Washington	5.8 ^{bc}	0.14	(03)	26.1
Arkansas	5.7 ^{bc}	0.20	(04)	23.9
Idaho	5.7 ^b	0.31	(05)	23.9
Low Five States				
New York	3.9 ^{bc}	0.06	(47)	-15.2
Nevada	3.9 ^b	0.21	(48)	-15.2
New Mexico	3.8 ^{bc}	0.21	(49)	-17.4
District of Columbia	3.4 ^{bc}	0.35	(50)	-26.1
Hawaii	2.7 ^{bc}	0.21	(51)	-41.3

Males

State	Rate	SE	Rank	PD
TOTAL U.S.	5.6	0.03		
High Five States				
Idaho	7.3 ^b	0.51	(01)	30.4
Mississippi	7.2 ^{bc}	0.36	(02)	28.6
Washington	7.1 ^{bc}	0.24	(03)	26.8
Arkansas	6.9 ^{bc}	0.34	(04)	23.2
South Dakota	6.6 ^b	0.61	(05)	17.9
Low Five States				
Nevada	4.8	0.35	(47)	-14.3
New Jersey	4.8 ^c	0.16	(48)	-14.3
New York	4.6 ^{bc}	0.11	(49)	-17.9
New Mexico	4.4 ^b	0.34	(50)	-21.4
Hawaii	3.1 ^{bc}	0.33	(51)	-44.6

Females

State	Rate	SE	Rank	PD
TOTAL U.S.	3.8	0.02		
High Five States				
North Dakota	5.5 ^b	0.57	(01)	44.7
South Dakota	5.3 ^b	0.50	(02)	39.5
Washington	4.7 ^{bc}	0.18	(03)	23.7
Arkansas	4.7 ^{bc}	0.25	(04)	23.7
Maine	4.5 ^b	0.35	(05)	18.4
Low Five States				
New York	3.2 ^{bc}	0.08	(47)	-15.8
Alaska	3.1 ^b	0.55	(48)	-18.4
Nevada	3.0 ^b	0.25	(49)	-21.1
Hawaii	2.3 ^{bc}	0.27	(50)	-39.5
District of Columbia	2.2 ^{bc}	0.37	(51)	-42.1

For additional detailed cancer statistics by state, please visit the State Cancer Profiles website. <http://statecancerprofiles.cancer.gov/>

- ^a NCHS public use data file. Rates are per 100,000 and are age-adjusted to the 2000 U.S. standard population by 5-year age groups.
^b Absolute percent difference between state rate and total U.S. rate is 15% or more.
^c Difference between state rate and total U.S. rate is statistically significant (p<=.0002).
SE Standard error of the rate.
PD Percent difference between state rate and total U.S. rate.

Table III-12
BRAIN AND OTHER NERVOUS SYSTEM (Invasive)

Estimated United States Cancer Prevalence Counts^a on January 1, 2001
By Race/Ethnicity, Sex and Years Since Diagnosis

Years Since Diagnosis	0 to <5	5 to <10	10 to <15	15 to <20	20 to <25	0 to <11 ^e	0 to <26 ^e	>=26 ^g	Complete ^h
<u>Race/Sex</u>									
All Races ^b	34,921	21,211	15,147	8,980	6,552	59,591	87,853	14,153	102,006
Males	19,339	11,972	7,962	4,703	3,317	33,247	47,814	7,258 ⁱ	55,072
Females	15,582	9,239	7,185	4,277	3,235	26,344	40,039	6,895 ⁱ	46,934
White ^b	31,194	18,671	13,350	7,959	5,928	52,770	78,053	10,986	89,039
Males	17,386	10,555	6,871	4,179	3,022	29,576	42,491	5,843 ⁱ	48,334
Females	13,808	8,116	6,479	3,780	2,906	23,194	35,562	5,143 ⁱ	40,705
Black ^b	2,430	1,644	1,337	795	453	4,522	6,746	+	+
Males	1,289	890	793	416	206	2,424	3,639	+	+
Females	1,141	754	544	379	247	2,098	3,107	+	+
Asian/Pacific Islander ^c	824	457	+	+	+	1,360	+	+	+
Males	441	262	+	+	+	754	+	+	+
Females	383	195	+	+	+	606	+	+	+
Hispanic ^d	2,791	1,559	+	+	+	4,620	+	+	+
Males	1,483	800	+	+	+	2,438	+	+	+
Females	1,308	759	+	+	+	2,182	+	+	+

Estimated prevalence percent^a on January 1, 2001, of the SEER 11 population diagnosed in the previous 10 years
By Age at Prevalence, Race/Ethnicity and Sex

Age at Prevalence	Age Specific (Crude)										Age-Adjusted ^f
	All Ages	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80+	All Ages
<u>Race/Sex</u>											
All Races ^c	0.0181%	0.0121%	0.0189%	0.0142%	0.0196%	0.0224%	0.0229%	0.0205%	0.0177%	0.0104%	0.0182%
Males	0.0204%	0.0133%	0.0202%	0.0156%	0.0217%	0.0251%	0.0269%	0.0253%	0.0209%	0.0121%	0.0205%
Females	0.0159%	0.0109%	0.0175%	0.0128%	0.0174%	0.0198%	0.0191%	0.0162%	0.0153%	0.0095%	0.0160%
White ^c	0.0202%	0.0136%	0.0205%	0.0155%	0.0224%	0.0255%	0.0257%	0.0229%	0.0190%	0.0096%	0.0203%
Males	0.0226%	0.0149%	0.0219%	0.0168%	0.0244%	0.0283%	0.0297%	0.0287%	0.0225%	0.0112%	0.0227%
Females	0.0178%	0.0122%	0.0191%	0.0141%	0.0203%	0.0227%	0.0218%	0.0176%	0.0163%	0.0087%	0.0179%
Black ^c	0.0112%	0.0081%	0.0142%	0.0103%	0.0100%	0.0121%	0.0143%	0.0102%	0.0096%	0.0133%	0.0113%
Males	0.0125%	0.0092%	0.0145%	0.0115%	0.0116%	0.0149%	0.0190%	0.0092%	0.0087%	-	0.0125%
Females	0.0099%	0.0070%	0.0140%	0.0092%	0.0086%	0.0096%	0.0103%	0.0110%	0.0103%	0.0156%	0.0101%
Asian/Pacific Islander ^c	0.0106%	0.0070%	0.0126%	0.0100%	0.0100%	0.0112%	0.0109%	0.0119%	0.0133%	0.0157%	0.0108%
Males	0.0121%	0.0079%	0.0132%	0.0116%	0.0121%	0.0106%	0.0137%	0.0140%	0.0180%	0.0231%	0.0124%
Females	0.0093%	0.0061%	0.0120%	0.0084%	0.0081%	0.0117%	0.0085%	0.0101%	0.0097%	0.0106%	0.0094%
Hispanic ^d	0.0120%	0.0101%	0.0122%	0.0071%	0.0137%	0.0164%	0.0180%	0.0154%	0.0127%	0.0112%	0.0130%
Males	0.0123%	0.0105%	0.0127%	0.0075%	0.0135%	0.0165%	0.0194%	0.0175%	0.0103%	-	0.0134%
Females	0.0118%	0.0097%	0.0117%	0.0067%	0.0139%	0.0162%	0.0168%	0.0137%	0.0144%	0.0108%	0.0126%

^a US 2001 cancer prevalence counts are based on 2001 cancer prevalence proportions from the SEER registries and 1/1/2001 US population estimates based on the average of 2000 and 2001 population estimates from the US Bureau of the Census. Prevalence was calculated using the First Malignant Primary Only for a person.

^{b c d} Statistics based on b) SEER 9 Areas c) SEER 11 Areas d) SEER 11 Areas excluding Hawaii and Detroit.

^e Maximum limited-duration prevalence: 26 years for 1975-2001 SEER 9 data; 11 years for 1990-2001 SEER 11 data (used to calculate prevalence for Hispanics and Asian Pacific Islanders).

^f Percentages are age-adjusted to the 2000 US standard population by 5-year age groups.

^{g h i} (g) Cases diagnosed 26 years or more ago were estimated using the completeness index method (Capocaccia et. al. 1997, Merrill et. al. 2000). (h) Complete prevalence is obtained by summing 0 to <26 and >=26. (i) Age-specific completeness index was approximated using empirical data from historical Connecticut tumor registry.

- Statistic not shown. Statistic based on fewer than 5 cases estimated alive in SEER for the time interval.

+ Not available.

SEER Incidence, Delay Adjusted Incidence and US Death Rates+ Brain and Other Nervous System Cancer, by Race and Sex

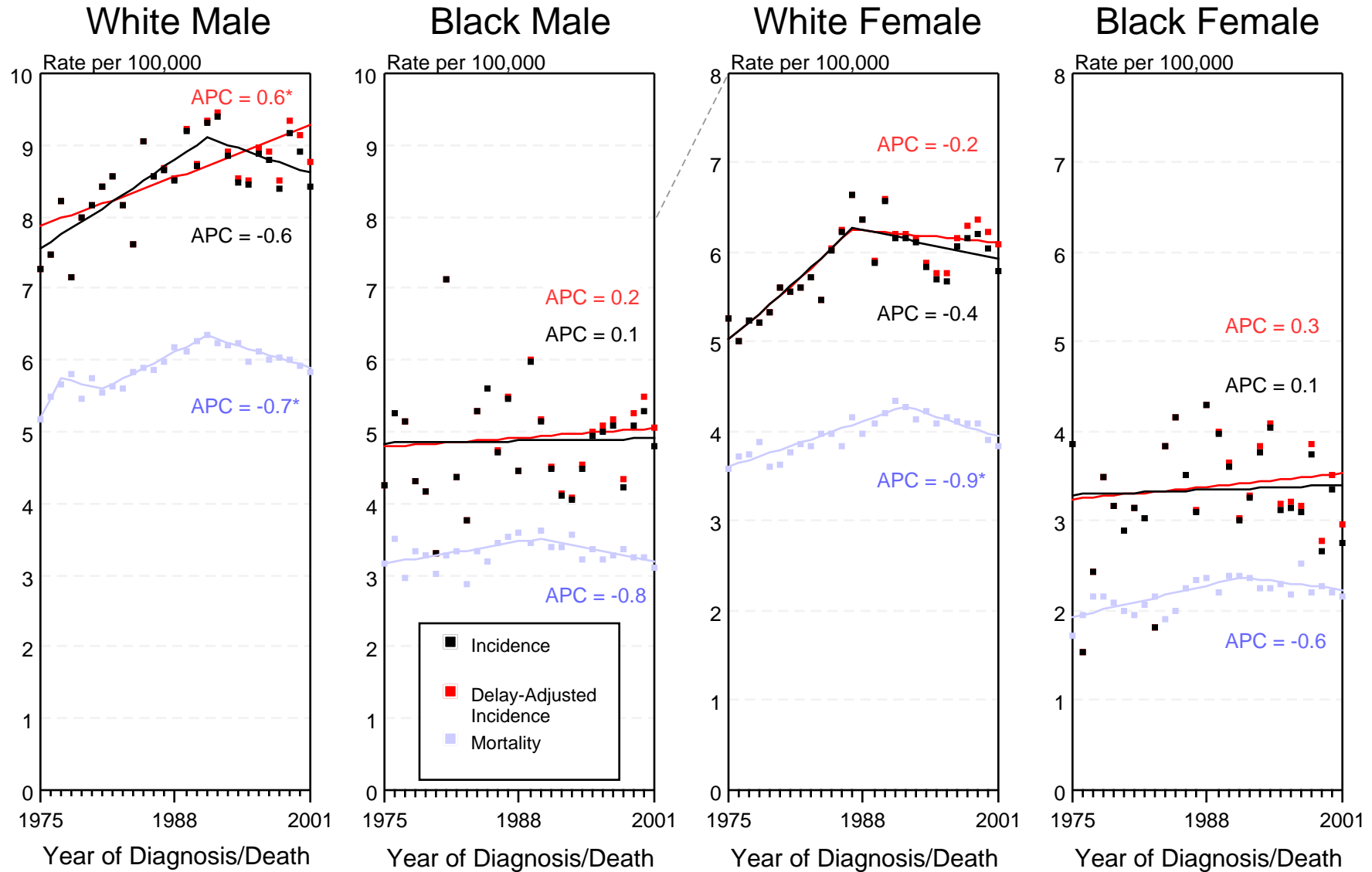


Figure III-1

+ Source: SEER 9 areas and NCHS public use data file for the total US. Rates are age-adjusted to the 2000 US standard million population by 5-year age groups. Regression lines and APCs are calculated using the Joinpoint Regression Program Version 2.7, September 2003, National Cancer Institute.

The APC is the Annual Percent Change for the regression line segments. The APC shown on the graph is for the most recent trend.

* The APC is significantly different from zero ($p < 0.05$).