

Table 3.1
Cancer of the Brain and Other Nervous System (Invasive)

Trends in SEER Incidence^{ab} and U.S. Mortality^c Using the Joinpoint Regression Program,
1975-2008 With up to Five Joinpoints, 1992-2008 With up to Three Joinpoints,
Both Sexes by Race/Ethnicity

	JP Trend 1		JP Trend 2		JP Trend 3		JP Trend 4		JP Trend 5		JP Trend 6		AAPC ^d	
	Years	APC	Years	APC	Years	APC	Years	APC	Years	APC	Years	APC	1999-08	2004-08
<u>SEER 9 Delay-Adjusted Incidence^a, 1975-2008</u>														
All Races	1975-87	1.5*	1987-08	-0.2									-0.2	-0.2
White	1975-87	1.6*	1987-08	0.0									0.0	0.0
Black	1975-08	0.2											0.2	0.2
<u>SEER 13 Delay-Adjusted Incidence^b, 1992-2008</u>														
All Races	1992-08	-0.1											-0.1	-0.1
White	1992-08	0.0											0.0	0.0
Black	1992-08	-0.1											-0.1	-0.1
<u>SEER 9 Observed Incidence^a, 1975-2008</u>														
All Races	1975-87	1.5*	1987-08	-0.3*									-0.3*	-0.3*
White	1975-87	1.6*	1987-08	-0.1									-0.1	-0.1
Black	1975-08	0.1											0.1	0.1
<u>SEER 13 Observed Incidence^b, 1992-2008</u>														
All Races	1992-08	-0.3*											-0.3*	-0.3*
White	1992-08	-0.1											-0.1	-0.1
White NH ^{ef}	1992-08	0.0											0.0	0.0
Black	1992-08	-0.3											-0.3	-0.3
Black NH ^{ef}	1992-08	-0.4											-0.4	-0.4
API ^e	1992-08	-0.4											-0.4	-0.4
AI/AN ^{eg}	1992-08	4.9*											4.9*	4.9*
Hispanic ^f	1992-08	-0.1											-0.1	-0.1
<u>U.S. Cancer Mortality^c, 1975-2008</u>														
All Races	1975-83	0.5	1983-91	1.3*	1991-08	-0.9*							-0.9*	-0.9*
White	1975-92	1.0*	1992-08	-0.8*									-0.8*	-0.8*
Black	1975-91	0.9*	1991-08	-0.9*									-0.9*	-0.9*
<u>U.S. Cancer Mortality^c, 1992-2008</u>														
All Races	1992-08	-0.9*											-0.9*	-0.9*
White	1992-08	-0.8*											-0.8*	-0.8*
White NH ^{ef}	1992-08	-0.7*											-0.7*	-0.7*
Black	1992-08	-1.0*											-1.0*	-1.0*
Black NH ^{ef}	1992-08	-0.9*											-0.9*	-0.9*
API ^e	1992-08	-0.2											-0.2	-0.2
AI/AN ^{eg}	1992-06	-0.3	2006-08	31.0									6.0	14.3
Hispanic ^f	1992-08	-0.2											-0.2	-0.2

Joinpoint Regression Program Version 3.5, April 2011, National Cancer Institute. (<http://surveillance.cancer.gov/joinpoint/>).

The APC is the Annual Percent Change based on rates age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

Trends are from the SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta).

Trends are from the SEER 13 areas (SEER 9 Areas, Los Angeles, San Jose-Monterey, Rural Georgia, and the Alaska Native Registry).

Trends are from US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.

The AAPC is the Average Annual Percent Change and is based on the APCs calculated by Joinpoint.

API - Asian/Pacific Islander, AI/AN - American Indian/Alaska Native, NH - Non-Hispanic

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 are based on NHIA and exclude cases from the Alaska Native Registry.

The Hispanic and Non-Hispanic mortality trends exclude deaths from CT, DC, ME, MD, MN, NH, NY, ND, OK and VT.

Data for American Indian/Alaska Native are based on the CHSDA (Contract Health Service Delivery Area) counties.

* The APC/AAPC is significantly different from zero ($p < .05$).

- Joinpoint regression line analysis could not be performed on data series.

Table 3.2
Cancer of the Brain and Other Nervous System (Invasive)

Trends in SEER Incidence^{ab} and U.S. Mortality^c Using the Joinpoint Regression Program,
1975-2008 With up to Five Joinpoints, 1992-2008 With up to Three Joinpoints,
Males by Race/Ethnicity

	JP Trend 1		JP Trend 2		JP Trend 3		JP Trend 4		JP Trend 5		JP Trend 6		AAPC ^d	
	Years	APC	Years	APC	Years	APC	Years	APC	Years	APC	Years	APC	1999-08	2004-08
<u>SEER 9 Delay-Adjusted Incidence^a, 1975-2008</u>														
All Races	1975-89	1.2*	1989-08	-0.3*									-0.3*	-0.3*
White	1975-89	1.3*	1989-08	-0.2									-0.2	-0.2
Black	1975-08	-0.1											-0.1	-0.1
<u>SEER 13 Delay-Adjusted Incidence^b, 1992-2008</u>														
All Races	1992-08	-0.3											-0.3	-0.3
White	1992-08	-0.1											-0.1	-0.1
Black	1992-08	-0.1											-0.1	-0.1
<u>SEER 9 Observed Incidence^a, 1975-2008</u>														
All Races	1975-89	1.2*	1989-08	-0.5*									-0.5*	-0.5*
White	1975-91	1.1*	1991-08	-0.4*									-0.4*	-0.4*
Black	1975-08	-0.2											-0.2	-0.2
<u>SEER 13 Observed Incidence^b, 1992-2008</u>														
All Races	1992-08	-0.4*											-0.4*	-0.4*
White	1992-08	-0.3											-0.3	-0.3
White NH ^{ef}	1992-08	-0.2											-0.2	-0.2
Black	1992-08	-0.3											-0.3	-0.3
Black NH ^{ef}	1992-08	-0.3											-0.3	-0.3
API ^e	1992-08	-0.6											-0.6	-0.6
AI/AN ^{eg}	1992-08	1.5											1.5	1.5
Hispanic ^f	1992-08	0.3											0.3	0.3
<u>U.S. Cancer Mortality^c, 1975-2008</u>														
All Races	1975-77	4.3	1977-82	-0.3	1982-91	1.3*	1991-08	-0.9*					-0.9*	-0.9*
White	1975-77	5.0	1977-81	-0.7	1981-91	1.3*	1991-08	-0.8*					-0.8*	-0.8*
Black	1975-90	0.7*	1990-08	-0.8*									-0.8*	-0.8*
<u>U.S. Cancer Mortality^c, 1992-2008</u>														
All Races	1992-08	-0.9*											-0.9*	-0.9*
White	1992-08	-0.8*											-0.8*	-0.8*
White NH ^{ef}	1992-08	-0.7*											-0.7*	-0.7*
Black	1992-08	-0.8*											-0.8*	-0.8*
Black NH ^{ef}	1992-08	-0.7*											-0.7*	-0.7*
API ^e	1992-08	0.7											0.7	0.7
AI/AN ^{eg}	1992-08	1.8											1.8	1.8
Hispanic ^f	1992-08	-0.6											-0.6	-0.6

Joinpoint Regression Program Version 3.5, April 2011, National Cancer Institute. (<http://surveillance.cancer.gov/joinpoint/>).

The APC is the Annual Percent Change based on rates age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

^a Trends are from the SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta).

^b Trends are from the SEER 13 areas (SEER 9 Areas, Los Angeles, San Jose-Monterey, Rural Georgia, and the Alaska Native Registry).

^c Trends are from US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.

^d The AAPC is the Average Annual Percent Change and is based on the APCs calculated by Joinpoint.

^e API - Asian/Pacific Islander, AI/AN - American Indian/Alaska Native, NH - Non-Hispanic

^f 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 are based on NHIA and exclude cases from the Alaska Native Registry.

The Hispanic and Non-Hispanic mortality trends exclude deaths from CT, DC, ME, MD, MN, NH, NY, ND, OK and VT.

^g Data for American Indian/Alaska Native are based on the CHSDA (Contract Health Service Delivery Area) counties.

* The APC/AAPC is significantly different from zero ($p < .05$).

- Joinpoint regression line analysis could not be performed on data series.

Table 3.3
Cancer of the Brain and Other Nervous System (Invasive)

Trends in SEER Incidence^{ab} and U.S. Mortality^c Using the Joinpoint Regression Program,
1975-2008 With up to Five Joinpoints, 1992-2008 With up to Three Joinpoints,
Females by Race/Ethnicity

	JP Trend 1		JP Trend 2		JP Trend 3		JP Trend 4		JP Trend 5		JP Trend 6		AAPC ^d	
	Years	APC	Years	APC	Years	APC	Years	APC	Years	APC	Years	APC	1999-08	2004-08
<u>SEER 9 Delay-Adjusted Incidence^a, 1975-2008</u>														
All Races	1975-87	1.6*	1987-08	-0.1									-0.1	-0.1
White	1975-87	1.7*	1987-08	0.0									0.0	0.0
Black	1975-08	0.6											0.6	0.6
<u>SEER 13 Delay-Adjusted Incidence^b, 1992-2008</u>														
All Races	1992-08	0.0											0.0	0.0
White	1992-08	0.1											0.1	0.1
Black	1992-08	0.1											0.1	0.1
<u>SEER 9 Observed Incidence^a, 1975-2008</u>														
All Races	1975-87	1.6*	1987-08	-0.2									-0.2	-0.2
White	1975-87	1.8*	1987-08	-0.1									-0.1	-0.1
Black	1975-08	0.5											0.5	0.5
<u>SEER 13 Observed Incidence^b, 1992-2008</u>														
All Races	1992-08	-0.2											-0.2	-0.2
White	1992-08	-0.1											-0.1	-0.1
White NH ^{ef}	1992-08	0.2											0.2	0.2
Black	1992-08	-0.2											-0.2	-0.2
Black NH ^{ef}	1992-08	-0.3											-0.3	-0.3
API ^e	1992-08	-0.2											-0.2	-0.2
AI/AN ^{eg}	-	-											-	-
Hispanic ^f	1992-08	-0.5											-0.5	-0.5
<u>U.S. Cancer Mortality^c, 1975-2008</u>														
All Races	1975-92	0.9*	1992-08	-1.0*									-1.0*	-1.0*
White	1975-92	1.0*	1992-08	-0.9*									-0.9*	-0.9*
Black	1975-92	1.3*	1992-08	-1.1*									-1.1*	-1.1*
<u>U.S. Cancer Mortality^c, 1992-2008</u>														
All Races	1992-08	-1.0*											-1.0*	-1.0*
White	1992-08	-0.9*											-0.9*	-0.9*
White NH ^{ef}	1992-08	-0.8*											-0.8*	-0.8*
Black	1992-08	-1.1*											-1.1*	-1.1*
Black NH ^{ef}	1992-08	-1.1*											-1.1*	-1.1*
API ^e	1992-08	-1.2											-1.2	-1.2
AI/AN ^{eg}	1992-06	-1.0	2006-08	44.5									7.7	19.6
Hispanic ^f	1992-08	0.2											0.2	0.2

Joinpoint Regression Program Version 3.5, April 2011, National Cancer Institute. (<http://surveillance.cancer.gov/joinpoint/>).

The APC is the Annual Percent Change based on rates age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

Trends are from the SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta).

Trends are from the SEER 13 areas (SEER 9 Areas, Los Angeles, San Jose-Monterey, Rural Georgia, and the Alaska Native Registry).

Trends are from US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.

The AAPC is the Average Annual Percent Change and is based on the APCs calculated by Joinpoint.

API - Asian/Pacific Islander, AI/AN - American Indian/Alaska Native, NH - Non-Hispanic

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Data for American Indian/Alaska Native are based on the CHSDA (Contract Health Service Delivery Area) counties.

* The APC/AAPC is significantly different from zero ($p < .05$).

- Joinpoint regression line analysis could not be performed on data series.

Table 3.4
Cancer of the Brain and Other Nervous System (Invasive)
Delay-adjusted SEER Incidence^a Rates by Year, Race and Sex

Year of Diagnosis:	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
1975	5.85	6.83	5.01	6.21	7.31	5.28	4.13	4.27	3.88
1976	5.82	7.14	4.68	6.19	7.51	5.05	3.32	5.37	-
1977	6.17	7.76	4.88	6.60	8.26	5.26	3.55	5.17	2.47
1978	5.76	6.79	4.91	6.10	7.19	5.19	3.86	4.34	3.51
1979	6.12	7.42	5.01	6.60	8.03	5.37	3.67	4.19	3.20
1980	6.30	7.58	5.24	6.81	8.20	5.65	3.14	3.35	2.92
1981	6.51	8.07	5.20	6.90	8.45	5.63	5.02	7.24	3.16
1982	6.43	7.93	5.25	6.92	8.58	5.64	3.71	4.40	3.05
1983	6.31	7.60	5.19	6.88	8.20	5.74	2.75	3.79	1.84
1984	6.12	7.16	5.22	6.49	7.63	5.51	4.52	5.31	3.88
1985	6.95	8.53	5.64	7.43	9.10	6.06	4.88	5.62	4.18
1986	6.84	8.08	5.80	7.36	8.62	6.30	4.13	4.75	3.54
1987	6.99	8.13	6.04	7.59	8.71	6.67	4.18	5.50	3.13
1988	6.83	7.88	5.92	7.40	8.56	6.39	4.42	4.48	4.31
1989	6.86	8.50	5.46	7.43	9.22	5.91	4.91	5.93	4.12
1990	7.04	8.12	6.15	7.58	8.77	6.61	4.33	5.19	3.64
1991	6.96	8.56	5.65	7.61	9.28	6.24	3.66	4.51	3.10
1992	6.98	8.66	5.62	7.65	9.47	6.18	3.62	4.02	3.28
1993	6.78	8.08	5.69	7.40	8.89	6.16	3.94	3.98	3.81
1994	6.62	7.96	5.45	7.12	8.53	5.91	4.25	4.53	3.98
1995	6.49	7.93	5.32	7.05	8.58	5.81	4.00	5.09	3.16
1996	6.68	8.24	5.35	7.29	8.99	5.80	4.02	5.10	3.38
1997	6.77	8.11	5.63	7.44	8.91	6.16	4.04	5.31	3.14
1998	6.64	7.73	5.72	7.27	8.44	6.28	4.10	4.27	3.95
1999	6.94	8.39	5.70	7.72	9.26	6.41	3.72	5.14	2.58
2000	6.82	8.23	5.67	7.52	9.10	6.21	4.45	5.42	3.71
2001	6.65	7.99	5.55	7.30	8.65	6.17	4.13	5.28	3.35
2002	6.76	8.10	5.65	7.50	8.94	6.30	4.30	5.41	3.51
2003	6.69	7.67	5.87	7.27	8.37	6.33	4.70	4.44	4.74
2004	6.83	7.97	5.80	7.61	8.83	6.49	4.08	4.56	3.53
2005	6.79	7.82	5.91	7.51	8.74	6.44	4.46	4.92	4.06
2006	6.43	7.77	5.29	7.17	8.72	5.78	3.69	4.07	3.53
2007	6.62	7.77	5.60	7.32	8.73	6.06	4.59	4.77	4.43
2008	6.78	8.03	5.76	7.59	8.88	6.52	3.69	4.57	3.11

Additional information on the model used to delay-adjust SEER Incidence rates can be found at [\(http://surveillance.cancer.gov/delay/\)](http://surveillance.cancer.gov/delay/).

^a SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta). Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

- Delay-adjusted rate is not shown for observed rates based on less than 16 cases for the time interval.

Table 3.5
Cancer of the Brain and Other Nervous System (Invasive)
Age-adjusted SEER Incidence^a Rates by Year, Race and Sex

Year of Diagnosis:	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
1975	5.85	6.83	5.01	6.21	7.31	5.28	4.13	4.27	3.88
1976	5.82	7.14	4.68	6.19	7.51	5.05	3.32	5.37	-
1977	6.17	7.76	4.88	6.60	8.26	5.26	3.55	5.17	2.47
1978	5.76	6.79	4.91	6.10	7.19	5.19	3.86	4.34	3.51
1979	6.12	7.42	5.01	6.60	8.03	5.37	3.67	4.19	3.20
1980	6.30	7.58	5.24	6.81	8.20	5.65	3.14	3.35	2.92
1981	6.51	8.07	5.20	6.90	8.45	5.63	5.02	7.24	3.16
1982	6.43	7.93	5.25	6.92	8.58	5.64	3.71	4.40	3.05
1983	6.31	7.60	5.19	6.88	8.20	5.74	2.75	3.79	1.84
1984	6.12	7.16	5.22	6.49	7.63	5.51	4.52	5.31	3.88
1985	6.94	8.53	5.64	7.43	9.10	6.05	4.88	5.62	4.18
1986	6.84	8.07	5.80	7.36	8.62	6.30	4.13	4.75	3.54
1987	6.99	8.12	6.03	7.59	8.71	6.67	4.18	5.49	3.13
1988	6.83	7.87	5.92	7.39	8.56	6.39	4.42	4.48	4.31
1989	6.86	8.50	5.46	7.43	9.21	5.91	4.90	5.93	4.12
1990	7.04	8.11	6.15	7.58	8.76	6.60	4.33	5.18	3.64
1991	6.95	8.55	5.64	7.60	9.27	6.23	3.66	4.51	3.09
1992	6.97	8.66	5.61	7.64	9.46	6.17	3.61	4.01	3.28
1993	6.77	8.07	5.68	7.38	8.88	6.15	3.93	3.97	3.80
1994	6.60	7.95	5.43	7.11	8.52	5.90	4.24	4.52	3.97
1995	6.48	7.92	5.31	7.04	8.56	5.79	3.99	5.08	3.15
1996	6.67	8.22	5.33	7.27	8.97	5.78	4.02	5.09	3.37
1997	6.75	8.09	5.61	7.41	8.88	6.14	4.03	5.30	3.12
1998	6.61	7.70	5.70	7.24	8.42	6.26	4.08	4.26	3.94
1999	6.91	8.35	5.67	7.69	9.22	6.37	3.70	5.12	2.56
2000	6.78	8.19	5.63	7.48	9.05	6.17	4.43	5.40	3.69
2001	6.60	7.95	5.50	7.25	8.60	6.12	4.10	5.25	3.32
2002	6.70	8.04	5.59	7.43	8.87	6.23	4.26	5.37	3.48
2003	6.61	7.59	5.79	7.19	8.29	6.25	4.65	4.40	4.68
2004	6.74	7.88	5.71	7.51	8.73	6.39	4.03	4.50	3.48
2005	6.68	7.71	5.80	7.39	8.61	6.32	4.39	4.85	3.98
2006	6.31	7.64	5.17	7.03	8.57	5.65	3.62	4.00	3.45
2007	6.46	7.61	5.45	7.15	8.54	5.90	4.48	4.67	4.31
2008	6.51	7.74	5.50	7.28	8.54	6.22	3.54	4.39	2.97
1975-2008	6.59	7.89	5.49	7.17	8.58	5.98	4.05	4.80	3.45

^a SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta).
Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).
- Statistic not shown. Rate based on less than 16 cases for the time interval.

Table 3.6
Cancer of the Brain and Other Nervous System (Invasive)
Age-adjusted U.S. Death^a Rates by Year, Race and Sex

Year of Death:	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
1975	4.11	4.96	3.40	4.32	5.20	3.60	2.41	3.20	1.75
1976	4.34	5.28	3.56	4.54	5.50	3.74	2.66	3.54	1.98
1977	4.40	5.39	3.59	4.63	5.69	3.77	2.54	2.99	2.18
1978	4.53	5.54	3.71	4.76	5.82	3.91	2.70	3.36	2.18
1979	4.26	5.25	3.45	4.48	5.50	3.64	2.63	3.30	2.11
1980	4.37	5.45	3.47	4.62	5.77	3.66	2.46	3.04	2.02
1981	4.36	5.33	3.59	4.60	5.58	3.80	2.55	3.31	1.98
1982	4.43	5.38	3.67	4.67	5.67	3.88	2.64	3.37	2.09
1983	4.39	5.31	3.64	4.66	5.64	3.85	2.49	2.91	2.18
1984	4.55	5.57	3.74	4.82	5.86	4.00	2.56	3.35	1.94
1985	4.57	5.60	3.75	4.85	5.92	3.99	2.54	3.22	2.02
1986	4.53	5.59	3.68	4.78	5.90	3.87	2.77	3.47	2.27
1987	4.71	5.68	3.93	4.99	6.00	4.17	2.89	3.55	2.36
1988	4.72	5.89	3.79	4.98	6.21	4.00	2.91	3.63	2.39
1989	4.73	5.82	3.88	5.01	6.15	4.12	2.73	3.47	2.23
1990	4.87	5.97	3.99	5.16	6.30	4.24	2.97	3.66	2.42
1991	4.95	6.01	4.11	5.27	6.37	4.37	2.84	3.42	2.41
1992	4.85	5.88	4.03	5.17	6.26	4.30	2.82	3.41	2.39
1993	4.79	5.87	3.91	5.09	6.23	4.17	2.83	3.59	2.27
1994	4.84	5.88	3.97	5.17	6.26	4.25	2.69	3.23	2.26
1995	4.67	5.67	3.86	4.97	6.02	4.11	2.77	3.40	2.33
1996	4.73	5.74	3.91	5.07	6.14	4.19	2.64	3.24	2.21
1997	4.68	5.66	3.90	4.99	6.03	4.13	2.87	3.30	2.55
1998	4.68	5.70	3.83	5.00	6.06	4.12	2.73	3.39	2.24
1999	4.64	5.66	3.81	4.98	6.04	4.10	2.73	3.28	2.29
2000	4.53	5.58	3.67	4.86	5.96	3.93	2.70	3.28	2.24
2001	4.45	5.49	3.59	4.78	5.87	3.86	2.58	3.15	2.19
2002	4.45	5.46	3.61	4.78	5.83	3.89	2.64	3.21	2.22
2003	4.41	5.37	3.62	4.74	5.72	3.91	2.67	3.39	2.12
2004	4.31	5.23	3.53	4.64	5.60	3.81	2.47	3.02	2.05
2005	4.35	5.32	3.53	4.69	5.69	3.83	2.54	3.27	2.00
2006	4.18	5.14	3.39	4.52	5.54	3.66	2.36	2.96	1.94
2007	4.22	5.12	3.47	4.57	5.52	3.77	2.40	2.82	2.08
2008	4.29	5.27	3.46	4.63	5.65	3.76	2.51	3.22	2.03
1975-2008	4.54	5.55	3.72	4.84	5.90	3.98	2.66	3.28	2.19

^a US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.
Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).
- Statistic not shown. Rate based on less than 16 cases for the time interval.

Table 3.7
Cancer of the Brain and Other Nervous System (Invasive)
SEER Incidence^a and U.S. Death^b 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>SEER Incidence</u>									
<u>Age at Diagnosis</u>									
Age-Adjusted Rates, 2004-2008									
All ages	6.5	7.7	5.4	7.1	8.4	5.9	3.9	4.6	3.5
Under 65	4.6	5.3	3.9	5.1	5.9	4.2	2.9	3.2	2.6
65 and over	19.4	23.9	16.0	21.1	26.0	17.5	11.4	14.8	9.2
All ages (IARC world std) ^c	5.3	6.2	4.5	5.8	6.8	4.9	3.3	3.7	3.0
Age-Specific Rates, 2004-2008									
<1	3.7	3.8	3.6	3.6	3.8	3.5	3.1	-	-
1-4	3.9	4.1	3.7	4.2	4.4	3.9	3.0	3.1	2.9
5-9	3.1	3.3	2.8	3.3	3.6	3.0	2.1	1.8	2.4
10-14	2.5	2.7	2.4	2.7	2.9	2.4	1.9	1.7	2.2
15-19	2.2	2.4	2.0	2.3	2.5	2.1	1.4	1.4	1.3
20-24	2.3	2.3	2.3	2.5	2.5	2.6	1.4	1.4	1.4
25-29	2.7	3.2	2.2	3.1	3.6	2.5	1.5	1.2	1.8
30-34	3.1	3.6	2.6	3.4	3.9	2.9	1.6	1.6	1.6
35-39	3.6	4.2	3.0	4.1	4.8	3.4	2.1	2.3	2.0
40-44	4.6	5.3	3.9	5.0	5.8	4.2	2.9	3.3	2.5
45-49	5.9	7.0	4.8	6.5	7.8	5.3	3.3	4.1	2.6
50-54	7.9	9.5	6.4	8.8	10.6	7.0	5.0	5.4	4.8
55-59	10.5	12.8	8.2	11.6	14.1	9.2	6.7	8.7	5.1
60-64	13.7	17.0	10.8	15.2	18.7	11.9	8.1	10.3	6.3
65-69	16.1	19.4	13.2	17.8	21.3	14.7	9.9	12.4	8.1
70-74	19.7	23.9	16.3	21.8	26.4	17.9	10.8	11.8	10.0
75-79	21.8	28.1	17.2	23.8	30.3	19.0	13.9	20.3	9.9
80-84	22.2	27.1	19.1	24.1	29.3	20.8	10.6	17.3	7.0
85+	18.3	23.2	16.1	19.0	24.4	16.6	12.1	-	11.4
<u>U.S. Mortality</u>									
<u>Age at Death</u>									
Age-Adjusted Rates, 2004-2008									
All ages	4.3	5.2	3.5	4.6	5.6	3.8	2.5	3.1	2.0
Under 65	2.4	2.9	1.9	2.6	3.2	2.1	1.5	1.8	1.2
65 and over	17.1	21.1	14.3	18.3	22.4	15.4	9.3	11.5	7.9
All ages (IARC world std) ^c	3.1	3.7	2.5	3.3	4.0	2.7	1.8	2.2	1.5
Age-Specific Rates, 2004-2008									
<1	0.4	0.4	0.4	0.4	0.4	0.4	-	-	-
1-4	0.6	0.7	0.6	0.7	0.7	0.6	0.6	0.6	0.6
5-9	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.9
10-14	0.6	0.7	0.6	0.7	0.7	0.6	0.5	0.5	0.6
15-19	0.5	0.6	0.4	0.5	0.6	0.4	0.4	0.4	0.4
20-24	0.5	0.6	0.4	0.6	0.6	0.5	0.4	0.5	0.4
25-29	0.8	0.9	0.6	0.8	1.0	0.6	0.5	0.7	0.4
30-34	1.1	1.3	0.9	1.2	1.5	1.0	0.5	0.6	0.5
35-39	1.6	2.0	1.2	1.8	2.2	1.3	0.8	0.9	0.7
40-44	2.5	3.1	1.8	2.7	3.4	2.0	1.4	2.0	1.0
45-49	3.7	4.5	2.9	4.0	4.9	3.1	2.2	2.8	1.8
50-54	5.5	6.8	4.2	6.0	7.3	4.7	3.3	4.4	2.3
55-59	8.1	9.9	6.4	8.8	10.7	7.0	4.8	6.5	3.5
60-64	10.9	13.5	8.6	11.9	14.5	9.4	5.9	7.7	4.5
65-69	13.9	17.1	11.2	15.1	18.5	12.1	7.6	8.8	6.7
70-74	17.2	20.5	14.6	18.6	22.0	15.9	9.2	11.5	7.7
75-79	19.0	23.7	15.6	20.4	25.2	16.9	9.6	12.5	7.8
80-84	20.1	24.6	17.3	21.3	25.8	18.4	10.5	14.2	8.5
85+	17.2	22.4	14.9	17.8	23.3	15.4	11.3	12.8	10.8

^a SEER 17 areas. Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130), unless noted.

^b US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.

^c Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130), unless noted.

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

- Statistic not shown. Rate based on less than 16 cases for the time interval.

Table 3.8
Cancer of the Brain and Other Nervous System (Invasive)

5-Year Relative and Period Survival (Percent) by Race, Sex, Diagnosis Year, Stage and Age

	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
5-Year Relative Survival (Percent)									
Year of Diagnosis:									
1960-1963 ^a	-	-	-	18	16	21	19	17	21
1970-1973 ^a	-	-	-	20	18	22	19	19	19
1975-1977 ^b	22.4	20.7	24.7	21.8	20.2	24.0	25.4	19.6	34.7 ^f
1978-1980 ^b	23.6	22.4	25.3	23.1	21.9	24.6	28.2	28.8	27.5
1981-1983 ^b	24.1	23.0	25.4	23.3	22.4	24.4	30.8	31.7	29.2 ^f
1984-1986 ^b	27.0	25.8	28.5	26.3	25.0	27.8	30.9	32.8	28.3
1987-1989 ^b	28.9	27.4	30.9	28.3	26.4	30.7	31.3	33.5	28.8
1990-1992 ^b	30.2	30.5	29.8	29.2	29.4	29.0	40.0	41.6	38.1
1993-1995 ^b	32.2	32.8	31.5	31.0	31.3	30.5	41.2	45.7	36.3
1996-2000 ^b	31.9	30.5	33.7	31.1	29.9	32.6	36.3	33.3	39.9
2001-2007 ^b	34.8 ^e	33.4 ^e	36.5 ^e	33.7 ^e	32.9 ^e	34.8 ^e	39.8 ^e	35.2 ^e	44.2
5-Year Period Survival (Percent) ^{cd}									
2007	34.0	32.7	35.6	32.8	31.9	33.9	40.8	37.3	44.3
Stage Distribution (%) 2001-2007 ^c									
All Stages									
Number of cases	29,537	16,390	13,147	25,862	14,443	11,419	1,851	948	903
Percent	100%	100%	100%	100%	100%	100%	100%	100%	100%
Localized	74	75	73	75	76	73	73	72	73
Regional	16	16	16	16	16	16	15	16	15
Distant	2	2	2	2	2	2	3	4	3
Unstaged	7	7	8	7	6	8	9	9	9
5-Year Relative Survival (Percent), 2001-2007 ^c									
Age at Diagnosis:									
Ages <45	65.1	62.4	68.5	65.8	63.3	69.1	59.8	54.4	65.6
Ages 45-54	31.5	28.2	36.4	30.6	27.3	35.4	32.9	26.4	39.2
Ages 55-64	16.0	13.6	19.6	15.4	12.9	19.1	19.4	16.4	23.0
Ages 65-74	8.8	7.5	10.5	8.6	7.5	10.0	9.4	8.1	10.6
Ages 75+	4.3	3.5	4.9	4.2	3.5	4.6	8.4	6.0	9.7
Ages <65	44.9	41.5	49.6	44.3	41.0	48.9	46.2	40.4	52.7
Ages 65+	6.6	5.7	7.4	6.4	5.7	7.1	9.3	7.3	10.6
Stage:									
All Stages	33.4	31.8	35.4	32.5	31.2	34.2	38.0	33.8	42.4
Localized	36.2	34.2	38.8	35.3	33.5	37.6	40.8	37.0	44.7
Regional	21.3	21.0	21.7	20.0	20.1	19.8	28.8	23.8	33.7
Distant	36.8	36.0	37.6	37.8	37.4	38.2	33.9 ^f	31.2 ^f	38.5 ^f
Unstaged	30.4	29.1	31.7	29.6	28.4	30.6	30.9	23.8	38.7 ^f

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

^b SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta).
Based on follow-up of patients into 2008.

^c SEER 17 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana and New Jersey).
Based on follow-up of patients into 2008.

^d Period survival provides a 2007 estimate of survival by piecing together the most recent conditional survival estimates from several cohorts. It is computed here using three year calendar blocks (2005-2007: 0-1 year survival), (2004-2006: 1-2 year survival), (2003-2005: 2-3 year survival), (2002-2004: 3-4 year survival), (2001-2003: 4-5 years survival).

^e The difference between 1975-1977 and 2001-2007 is statistically significant ($p < .05$).

^f The standard error is between 5 and 10 percentage points.

^g The standard error is greater than 10 percentage points.

- Statistic could not be calculated due to fewer than 25 cases during the time period.

Table 3.9
Cancer of the Brain and Other Nervous System (Invasive)

SEER^a Relative Survival (Percent)
By Year of Diagnosis

All Races, Males and Females

Survival Time	Year of Diagnosis																				
	1975- 1979	1980- 1984	1985- 1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
1-year	47.5	48.6	52.2	54.2	55.0	52.9	53.2	54.4	53.4	54.5	52.4	55.0	55.9	56.4	58.1	60.0	58.3	58.0	58.9	62.1	62.3
2-year	32.4	34.3	37.1	37.3	40.6	39.2	38.7	40.4	39.4	40.7	38.1	40.7	40.2	41.9	42.3	46.2	43.9	43.1	45.7	46.6	
3-year	28.0	29.5	32.7	32.3	36.7	34.6	35.0	36.4	36.0	36.7	34.1	35.4	35.8	38.0	38.7	40.0	37.8	37.8	39.3		
4-year	25.2	26.6	29.9	30.1	34.4	31.5	32.9	33.8	34.3	34.4	31.8	32.6	33.3	35.7	36.3	37.5	35.6	35.5			
5-year	23.1	24.7	28.0	28.5	32.3	29.9	31.4	32.0	33.3	32.5	30.0	30.7	31.8	34.4	34.3	35.3	33.7				
6-year	21.5	23.2	26.5	27.6	30.9	27.9	30.4	31.1	32.1	31.1	28.1	29.4	30.3	32.9	33.3	33.5					
7-year	20.5	21.9	25.3	26.3	29.9	26.7	29.0	29.3	31.1	30.1	27.3	28.2	29.6	31.2	32.0						
8-year	19.4	20.9	24.1	25.5	28.9	25.6	28.7	28.1	30.2	28.7	26.5	27.3	28.8	30.5							
9-year	18.4	19.9	23.3	24.7	28.4	24.4	27.9	27.5	29.7	27.6	25.3	26.7	27.6								
10-year	17.7	18.9	22.5	24.1	27.4	23.6	27.1	27.1	28.8	26.9	24.2	25.8									
11-year	17.1	18.1	21.8	23.4	27.0	23.0	26.6	26.0	27.8	26.0	23.5										
12-year	16.6	17.6	21.3	23.0	26.0	22.6	25.7	25.5	27.5	24.9											
13-year	16.1	17.0	20.7	22.4	25.2	22.2	25.3	25.1	26.2												
14-year	15.8	16.5	20.1	22.0	24.5	21.6	24.4	24.4													
15-year	15.3	16.0	19.4	21.5	23.8	21.2	23.7														
16-year	15.0	15.5	19.1	20.9	23.1	21.0															
17-year	14.6	15.2	18.6	20.3	22.8																
18-year	14.3	14.8	18.1	20.1																	
19-year	14.0	14.3	17.6																		
20-year	13.7	13.9																			

^a Based on the SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta).

Table 3.10
Cancer of the Brain and Other Nervous System (Invasive)

SEER^a Relative Survival (Percent)
By Year of Diagnosis

All Races, Males

Year of Diagnosis

	1975- 1979	1980- 1984	1985- 1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Survival Time																					
1-year	47.3	49.5	52.5	56.9	56.7	54.9	54.7	55.9	55.3	56.0	55.4	55.3	55.4	55.2	55.9	60.1	58.0	59.9	58.2	64.3	62.3
2-year	31.4	33.9	36.4	38.8	40.3	39.7	40.3	40.7	40.6	39.7	39.6	39.9	38.6	39.8	38.5	46.2	42.9	44.6	44.6	46.2	
3-year	26.5	29.4	31.7	32.7	36.5	35.2	35.9	36.9	37.1	35.8	34.9	35.1	34.1	35.4	35.0	39.0	36.0	38.9	38.4		
4-year	24.0	26.0	28.5	30.4	34.3	32.4	33.7	34.6	35.7	33.4	32.7	31.5	31.2	32.9	31.9	35.9	34.2	36.2			
5-year	21.5	23.6	26.5	28.9	31.7	30.8	31.3	32.6	34.6	31.2	30.4	29.7	29.5	31.8	30.4	33.2	32.8				
6-year	20.1	22.2	25.0	28.4	30.8	28.7	30.1	31.9	33.1	29.6	28.2	27.8	28.0	30.3	29.4	30.9					
7-year	19.1	21.2	23.7	26.6	29.3	27.2	29.1	30.3	31.8	28.6	27.1	26.6	27.5	28.1	28.0						
8-year	17.8	20.2	22.5	26.3	28.2	26.2	28.8	29.3	30.5	26.9	26.5	25.8	26.5	27.4							
9-year	16.9	19.0	21.9	25.6	27.7	24.7	28.2	28.4	29.7	25.8	25.6	24.9	24.8								
10-year	16.3	18.1	21.1	24.8	26.9	23.9	27.0	27.9	28.7	25.2	24.5	24.2									
11-year	15.5	17.5	20.5	24.3	26.5	23.2	26.5	26.2	27.8	24.4	24.1										
12-year	15.0	17.0	20.0	23.9	25.7	22.9	25.5	26.0	27.6	23.2											
13-year	14.5	16.4	19.5	23.4	24.8	22.6	24.9	25.7	25.9												
14-year	14.4	15.8	18.9	23.2	23.9	22.2	23.9	24.7													
15-year	13.9	15.4	18.3	22.3	22.9	21.5	23.4														
16-year	13.8	14.8	17.9	21.9	22.3	21.2															
17-year	13.4	14.4	17.6	21.5	21.9																
18-year	13.1	14.1	17.1	21.2																	
19-year	12.8	13.7	16.6																		
20-year	12.6	13.4																			

^a Based on the SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta).

Table 3.11
Cancer of the Brain and Other Nervous System (Invasive)

SEER^a Relative Survival (Percent)
By Year of Diagnosis

All Races, Females

Year of Diagnosis

	1975- 1979	1980- 1984	1985- 1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Survival Time																					
1-year	47.8	47.5	51.8	50.9	52.7	50.1	51.3	52.5	50.8	52.5	48.7	54.8	56.4	57.9	61.0	60.0	58.5	55.6	59.7	59.2	62.2
2-year	33.6	34.7	38.0	35.4	41.0	38.5	36.7	40.0	37.8	42.0	36.3	41.8	42.4	44.6	47.2	46.3	45.2	41.1	47.1	47.0	
3-year	29.9	29.6	34.0	31.8	37.0	33.8	33.8	35.7	34.7	37.9	33.0	35.8	37.9	41.2	43.3	41.2	39.9	36.5	40.3		
4-year	26.8	27.3	31.6	29.8	34.5	30.3	32.0	32.7	32.3	35.6	30.7	33.9	36.1	39.4	41.9	39.5	37.2	34.7			
5-year	25.1	26.0	29.9	28.0	33.0	28.6	31.4	31.4	31.7	34.3	29.5	31.8	34.9	37.8	39.2	37.9	34.8				
6-year	23.4	24.4	28.4	26.6	30.9	26.9	30.7	30.1	30.8	33.0	27.9	31.1	33.3	36.2	38.2	36.6					
7-year	22.3	22.9	27.4	25.9	30.7	26.0	28.9	28.0	30.2	32.1	27.5	30.1	32.3	35.2	36.9						
8-year	21.3	21.7	26.1	24.5	29.8	24.9	28.5	26.6	29.8	30.9	26.4	29.1	31.8	34.5							
9-year	20.3	20.9	25.0	23.7	29.2	24.0	27.5	26.4	29.6	29.9	24.9	28.8	31.4								
10-year	19.6	19.9	24.2	23.2	28.0	23.3	27.2	26.1	28.8	29.2	23.8	27.8									
11-year	19.1	18.9	23.5	22.2	27.6	22.7	26.7	25.7	27.7	28.1	22.7										
12-year	18.6	18.4	22.9	21.8	26.3	22.1	26.0	24.9	27.2	27.2											
13-year	18.2	17.7	22.3	21.3	25.8	21.7	25.6	24.4	26.6												
14-year	17.6	17.4	21.5	20.6	25.2	20.9	25.0	24.0													
15-year	17.1	16.9	20.8	20.4	24.9	20.8	24.0														
16-year	16.6	16.4	20.5	19.7	24.1	20.6															
17-year	16.0	16.2	19.9	18.9	24.0																
18-year	15.9	15.8	19.4	18.8																	
19-year	15.5	15.1	19.0																		
20-year	15.1	14.6																			

^a Based on the SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta).

Table 3.12
Cancer of the Brain and Other Nervous System (Invasive)

Risk of Being Diagnosed With Cancer in 10, 20 and 30 Years,
Lifetime Risk of Being Diagnosed with Cancer Given Alive and Cancer-Free at Current Age, and
Lifetime Risk of Dying from Cancer Given Alive at Current Age
Both Sexes, 2006-2008 By Race/Ethnicity

Race/ Ethnicity	Current Age	Risk of Being Diagnosed with Cancer				Risk of Dying from Cancer	Race/ Ethnicity	Current Age	Risk of Being Diagnosed with Cancer				Risk of Dying from Cancer
		+10 yrs	+20 yrs	+30 yrs	Ever				+10 yrs	+20 yrs	+30 yrs	Ever	
All Races	0	0.03	0.06	0.08	0.61	0.43	Asian/ Pacific Islander	0	0.03	0.04	0.06	0.40	0.24
	10	0.02	0.05	0.08	0.58	0.43		10	0.02	0.03	0.05	0.38	0.24
	20	0.02	0.06	0.11	0.56	0.43		20	0.01	0.04	0.06	0.36	0.24
	30	0.03	0.08	0.17	0.54	0.43		30	0.02	0.05	0.09	0.35	0.23
	40	0.05	0.14	0.26	0.51	0.42		40	0.03	0.07	0.13	0.33	0.22
	50	0.09	0.22	0.36	0.47	0.40		50	0.04	0.10	0.18	0.31	0.21
	60	0.14	0.29	0.39	0.41	0.36		60	0.06	0.15	0.23	0.28	0.19
	70	0.18	0.28	-	0.31	0.28		70	0.09	0.17	-	0.23	0.16
80	0.15	-	-	0.18	0.17	80	0.10	-	-	0.17	0.13		
White	0	0.04	0.06	0.09	0.66	0.47	American Indian/ Alaska Native ^a	0	0.01	0.02	0.04	0.32	0.27
	10	0.02	0.05	0.09	0.63	0.47		10	0.02	0.03	0.08	0.31	0.27
	20	0.03	0.06	0.12	0.61	0.47		20	0.02	0.06	0.09	0.30	0.27
	30	0.04	0.09	0.19	0.59	0.46		30	0.05	0.08	0.13	0.29	0.27
	40	0.06	0.15	0.29	0.56	0.45		40	0.03	0.09	0.17	0.25	0.26
	50	0.10	0.24	0.40	0.52	0.43		50	0.06	0.14	0.20	0.23	0.26
	60	0.15	0.32	0.42	0.44	0.38		60	0.09	0.15	0.19	0.19	0.25
	70	0.19	0.31	-	0.33	0.29		70	0.07	0.11	-	0.11	0.22
80	0.16	-	-	0.19	0.18	80	0.06	-	-	0.06	0.18		
Black	0	0.03	0.04	0.06	0.33	0.22	Hispanic ^b	0	0.03	0.05	0.07	0.54	0.32
	10	0.02	0.03	0.05	0.31	0.21		10	0.02	0.04	0.06	0.51	0.32
	20	0.02	0.03	0.06	0.29	0.21		20	0.02	0.04	0.09	0.50	0.31
	30	0.02	0.05	0.10	0.28	0.21		30	0.03	0.07	0.14	0.48	0.31
	40	0.03	0.09	0.16	0.27	0.21		40	0.04	0.12	0.22	0.46	0.30
	50	0.05	0.13	0.20	0.25	0.20		50	0.07	0.18	0.32	0.43	0.29
	60	0.09	0.16	0.20	0.21	0.18		60	0.11	0.25	0.34	0.37	0.26
	70	0.10	0.14	-	0.16	0.14		70	0.16	0.25	-	0.28	0.21
80	0.07	-	-	0.09	0.10	80	0.12	-	-	0.16	0.14		

Devcan Version 6.6.0, October 2011, National Cancer Institute (<http://surveillance.cancer.gov/devcan/>).

Source: Incidence data are from the SEER 17 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana and New Jersey). Mortality data are from the NCHS public use data file for the total US.

^a Underlying incidence and mortality data for American Indian/Alaska Native are based on the CHSDA (Contract Health Service Delivery Area) counties.

^b Hispanic is not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives.

Underlying incidence data for Hispanics are based on NHIA and exclude cases from the Alaska Native Registry.

Underlying mortality data for Hispanics exclude deaths from the District of Columbia, Minnesota, New Hampshire and North Dakota.

- Statistic could not be calculated.

A percent of 0.00 represents a value that is below 0.005.

Table 3.13
Cancer of the Brain and Other Nervous System (Invasive)

Risk of Being Diagnosed With Cancer in 10, 20 and 30 Years,
Lifetime Risk of Being Diagnosed with Cancer Given Alive and Cancer-Free at Current Age, and
Lifetime Risk of Dying from Cancer Given Alive at Current Age
Males, 2006-2008 By Race/Ethnicity

Race/ Ethnicity	Current Age	Risk of Being Diagnosed with Cancer				Risk of Dying from Cancer	Race/ Ethnicity	Current Age	Risk of Being Diagnosed with Cancer				Risk of Dying from Cancer
		+10 yrs	+20 yrs	+30 yrs	Ever				+10 yrs	+20 yrs	+30 yrs	Ever	
All Races	0	0.04	0.06	0.09	0.68	0.49	Asian/ Pacific Islander	0	0.03	0.05	0.06	0.45	0.28
	10	0.02	0.05	0.09	0.66	0.49		10	0.02	0.04	0.06	0.42	0.28
	20	0.03	0.07	0.12	0.64	0.48		20	0.02	0.04	0.07	0.41	0.28
	30	0.04	0.10	0.20	0.62	0.48		30	0.03	0.05	0.10	0.39	0.27
	40	0.06	0.16	0.31	0.59	0.48		40	0.03	0.08	0.16	0.37	0.26
	50	0.11	0.26	0.43	0.55	0.45		50	0.05	0.13	0.23	0.35	0.25
	60	0.17	0.35	0.45	0.47	0.41		60	0.08	0.18	0.26	0.31	0.23
	70	0.21	0.33	-	0.36	0.31		70	0.11	0.20	-	0.25	0.19
80	0.17	-	-	0.21	0.20	80	0.11	-	-	0.18	0.15		
White	0	0.04	0.06	0.09	0.75	0.53	American Indian/ Alaska Native ^a	0	0.01	0.03	0.05	0.34	0.26
	10	0.03	0.06	0.10	0.72	0.53		10	0.02	0.04	0.10	0.33	0.26
	20	0.03	0.07	0.14	0.70	0.53		20	0.02	0.08	0.10	0.31	0.26
	30	0.04	0.11	0.22	0.67	0.52		30	0.06	0.08	0.13	0.30	0.27
	40	0.07	0.18	0.35	0.64	0.51		40	0.03	0.08	0.17	0.25	0.27
	50	0.12	0.29	0.47	0.59	0.49		50	0.05	0.15	0.23	0.24	0.26
	60	0.18	0.38	0.49	0.51	0.44		60	0.11	0.20	0.20	0.20	0.26
	70	0.23	0.35	-	0.38	0.33		70	0.10	0.11	-	0.11	0.19
80	0.18	-	-	0.22	0.20	80	0.01	-	-	0.01	0.16		
Black	0	0.02	0.04	0.05	0.36	0.23	Hispanic ^b	0	0.03	0.05	0.07	0.56	0.33
	10	0.01	0.03	0.04	0.34	0.23		10	0.02	0.04	0.07	0.54	0.33
	20	0.01	0.03	0.07	0.33	0.23		20	0.02	0.05	0.10	0.52	0.33
	30	0.02	0.05	0.12	0.32	0.23		30	0.03	0.08	0.15	0.51	0.33
	40	0.04	0.10	0.19	0.31	0.23		40	0.05	0.12	0.24	0.49	0.32
	50	0.07	0.16	0.23	0.29	0.22		50	0.08	0.20	0.34	0.45	0.30
	60	0.10	0.19	0.25	0.26	0.20		60	0.13	0.28	0.36	0.40	0.28
	70	0.12	0.19	-	0.20	0.16		70	0.17	0.26	-	0.31	0.22
80	0.12	-	-	0.15	0.11	80	0.12	-	-	0.18	0.14		

Devcan Version 6.6.0, October 2011, National Cancer Institute (<http://surveillance.cancer.gov/devcan/>).

Source: Incidence data are from the SEER 17 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana and New Jersey). Mortality data are from the NCHS public use data file for the total US.

^a Underlying incidence and mortality data for American Indian/Alaska Native are based on the CHSDA (Contract Health Service Delivery Area) counties.

^b Hispanic is not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives.

Underlying incidence data for Hispanics are based on NHIA and exclude cases from the Alaska Native Registry.

Underlying mortality data for Hispanics exclude deaths from the District of Columbia, Minnesota, New Hampshire and North Dakota.

- Statistic could not be calculated.

A percent of 0.00 represents a value that is below 0.005.

Table 3.14
Cancer of the Brain and Other Nervous System (Invasive)

Risk of Being Diagnosed With Cancer in 10, 20 and 30 Years,
Lifetime Risk of Being Diagnosed with Cancer Given Alive and Cancer-Free at Current Age, and
Lifetime Risk of Dying from Cancer Given Alive at Current Age
Females, 2006-2008 By Race/Ethnicity

Race/ Ethnicity	Current Age	Risk of Being Diagnosed with Cancer				Risk of Dying from Cancer	Race/ Ethnicity	Current Age	Risk of Being Diagnosed with Cancer				Risk of Dying from Cancer
		+10 yrs	+20 yrs	+30 yrs	Ever				+10 yrs	+20 yrs	+30 yrs	Ever	
All Races	0	0.03	0.05	0.07	0.53	0.38	Asian/ Pacific Islander	0	0.02	0.04	0.05	0.37	0.21
	10	0.02	0.04	0.07	0.51	0.38		10	0.02	0.03	0.05	0.35	0.21
	20	0.02	0.05	0.09	0.49	0.38		20	0.01	0.03	0.06	0.33	0.20
	30	0.03	0.07	0.14	0.47	0.37		30	0.02	0.05	0.08	0.32	0.20
	40	0.04	0.11	0.22	0.44	0.37		40	0.03	0.06	0.11	0.30	0.19
	50	0.07	0.18	0.30	0.41	0.35		50	0.03	0.08	0.15	0.28	0.18
	60	0.11	0.24	0.33	0.35	0.31		60	0.05	0.12	0.20	0.25	0.17
	70	0.15	0.25	-	0.27	0.25		70	0.07	0.16	-	0.22	0.14
80	0.13	-	-	0.16	0.15	80	0.10	-	-	0.17	0.11		
White	0	0.03	0.06	0.08	0.58	0.42	American Indian/ Alaska Native ^a	0	0.00	0.01	0.02	0.29	0.27
	10	0.02	0.05	0.08	0.55	0.42		10	0.01	0.02	0.05	0.30	0.27
	20	0.02	0.05	0.10	0.53	0.41		20	0.01	0.04	0.08	0.29	0.27
	30	0.03	0.08	0.15	0.51	0.41		30	0.03	0.07	0.12	0.28	0.27
	40	0.05	0.12	0.24	0.49	0.40		40	0.04	0.09	0.17	0.25	0.26
	50	0.08	0.20	0.34	0.45	0.38		50	0.06	0.13	0.16	0.22	0.25
	60	0.12	0.27	0.36	0.38	0.34		60	0.08	0.11	0.17	0.17	0.24
	70	0.16	0.27	-	0.29	0.26		70	0.04	0.10	-	0.10	0.24
80	0.14	-	-	0.17	0.16	80	0.09	-	-	0.09	0.20		
Black	0	0.03	0.05	0.06	0.30	0.20	Hispanic ^b	0	0.03	0.05	0.06	0.51	0.30
	10	0.02	0.04	0.05	0.28	0.20		10	0.02	0.03	0.06	0.49	0.30
	20	0.02	0.04	0.06	0.26	0.19		20	0.02	0.04	0.08	0.47	0.30
	30	0.02	0.05	0.09	0.25	0.19		30	0.02	0.06	0.13	0.46	0.29
	40	0.03	0.07	0.14	0.23	0.19		40	0.04	0.11	0.20	0.44	0.29
	50	0.04	0.11	0.18	0.21	0.18		50	0.07	0.17	0.29	0.41	0.28
	60	0.07	0.14	0.17	0.18	0.16		60	0.10	0.23	0.32	0.35	0.24
	70	0.08	0.11	-	0.13	0.13		70	0.14	0.24	-	0.27	0.20
80	0.04	-	-	0.06	0.09	80	0.12	-	-	0.16	0.14		

Devcan Version 6.6.0, October 2011, National Cancer Institute (<http://surveillance.cancer.gov/devcan/>).

Source: Incidence data are from the SEER 17 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana and New Jersey). Mortality data are from the NCHS public use data file for the total US.

^a Underlying incidence and mortality data for American Indian/Alaska Native are based on the CHSDA (Contract Health Service Delivery Area) counties.

^b Hispanic is not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives.

Underlying incidence data for Hispanics are based on NHIA and exclude cases from the Alaska Native Registry.

Underlying mortality data for Hispanics exclude deaths from the District of Columbia, Minnesota, New Hampshire and North Dakota.

- Statistic could not be calculated.

A percent of 0.00 represents a value that is below 0.005.

Table 3.15
Cancer of the Brain And Other Nervous System (Invasive)

SEER Incidence and U.S. Mortality
Age-Adjusted Rates and Trends^a
By Race/Ethnicity and Sex

SEER Incidence	SEER 17 Areas ^b			SEER 13 Areas ^b			SEER 9 Areas ^b		
	Rate 2004-2008			Trend 1999-2008 ^c			Trend 1999-2008 ^d		
	Rate per 100,000 persons			AAPC (%)			AAPC (%)		
RACE/ETHNICITY	Total	Males	Females	Total	Males	Females	Total	Males	Females
All Races	6.5	7.7	5.4	-0.3*	-0.4*	-0.2	-0.3*	-0.5*	-0.2
White	7.1	8.4	5.9	-0.1	-0.3	-0.1	-0.1	-0.4*	-0.1
White Hispanic ^e	5.5	6.3	4.8	-0.2	0.2	-0.7	-	-	-
White Non-Hispanic ^e	7.5	9.0	6.2	0.0	-0.2	0.2	-	-	-
Black	3.9	4.6	3.5	-0.3	-0.3	-0.2	0.1	-0.2	0.5
Asian/Pacific Islander	3.5	4.0	3.2	-0.4	-0.6	-0.2	-	-	-
Amer Ind/Alaska Nat ^f	3.7	3.8	3.6	-	-	-	-	-	-
Hispanic ^e	5.3	6.0	4.6	-0.1	0.3	-0.5	-	-	-
<u>U.S. Mortality^g</u>									
RACE/ETHNICITY	Rate 2004-2008			Trend 1999-2008 ^h					
	Rate per 100,000 persons			AAPC (%)					
	Total	Males	Females	Total	Males	Females			
All Races	4.3	5.2	3.5	-0.9*	-0.9*	-1.0*			
White	4.6	5.6	3.8	-0.8*	-0.8*	-0.9*			
White Hispanic ^e	2.9	3.4	2.5	-0.2	-0.5	0.1			
White Non-Hispanic ^e	4.8	5.8	3.9	-0.7*	-0.7*	-0.8*			
Black	2.5	3.1	2.0	-1.0*	-0.8*	-1.1*			
Asian/Pacific Islander	1.9	2.4	1.6	-0.2	0.7	-1.2			
Amer Ind/Alaska Nat									
Total U.S.	1.9	2.3	1.5	0.2	-0.1	-			
CHSDA Counties	2.4	2.9	1.9	6.0	-	-			
Non-CHSDA Counties	1.3	1.5	1.1	-	-	-			
Hispanic ^e	2.8	3.2	2.4	-0.2	-0.6	0.2			

The AAPC is the Average Annual Percent Change over the time interval. The AAPCs are calculated by the Joinpoint Regression Program Version 3.5, April 2011, National Cancer Institute.

- Statistic not shown. Rate based on less than 16 cases for the time interval.

Trend based on less than 10 cases for at least one year within the time interval.

a Rates are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130). Trends

are based on rates age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

b The SEER 9 areas are San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah and Atlanta.

The SEER 13 areas comprise the SEER 9 areas plus San Jose-Monterey, Los Angeles, the Alaska Native Registry and Rural Georgia.

The SEER 17 areas comprise the SEER 13 areas plus California excluding SF/SJM/LA, Kentucky, Louisiana and New Jersey.

c The 1999-2008 AAPC estimates are based on a Joinpoint analysis with up to 3 Joinpoints over diagnosis years 1992-2008.

d The 1999-2008 AAPC estimates are based on a Joinpoint analysis with up to 5 Joinpoints over diagnosis years 1975-2008.

e 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 are based on NHIA and exclude cases from the Alaska Native Registry. The 2004-2008 Hispanic and Non-Hispanic death rates exclude deaths from the District of Columbia and North Dakota. The 1999-2008 Hispanic and Non-Hispanic mortality trends exclude deaths from Connecticut, the District of Columbia, Maine, Maryland, Minnesota, New Hampshire, New York, North Dakota, Oklahoma and Vermont.

f Incidence data for American Indian/Alaska Native are based on the CHSDA(Contract Health Service Delivery Area) counties.

g US Mortality Files, National Center for Health Statistics, CDC.

h The 1999-2008 mortality AAPCs are based on a Joinpoint analysis using years of death 1992-2008.

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

Table 3.16
Cancer of the Brain and Other Nervous System (Invasive)

Age-Adjusted SEER Incidence Rates^a
By Registry, Race and Sex

	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
<u>SEER Incidence Rates^a, 2004-2008</u>									
Atlanta & Rural Georgia	5.54	6.20	4.99	6.54	7.46	5.71	3.80	3.82	3.72
Atlanta	5.54	6.22	4.98	6.52	7.45	5.71	3.81	3.92	3.68
Rural Georgia	5.71	6.12	5.19	7.19	8.53	-	-	-	-
California	6.16	7.37	5.11	6.80	8.12	5.63	3.76	4.45	3.29
Greater Bay Area	6.10	7.27	5.11	7.09	8.51	5.85	3.70	4.19	3.35
San Francisco-Oakland	5.90	7.13	4.84	7.00	8.54	5.62	3.70	4.19	3.31
San Jose-Monterey	6.49	7.58	5.61	7.27	8.49	6.25	-	-	-
Los Angeles	5.63	6.73	4.67	6.41	7.55	5.38	3.80	4.75	3.22
Greater California	6.43	7.69	5.32	6.89	8.25	5.69	3.80	4.28	3.40
Connecticut	7.06	8.28	6.01	7.48	8.79	6.33	3.11	3.20	2.99
Detroit	6.61	7.93	5.54	7.33	8.73	6.13	4.67	5.43	4.15
Hawaii	4.00	4.61	3.44	6.55	7.98	5.03	-	-	-
Iowa	7.54	9.14	6.14	7.56	9.16	6.16	5.99	-	-
Kentucky	7.04	8.37	5.87	7.25	8.64	5.99	4.21	4.42	4.28
Louisiana	5.82	7.15	4.76	6.52	8.01	5.25	4.12	4.93	3.62
New Jersey	7.15	8.49	6.02	7.76	9.20	6.51	3.90	4.97	3.14
New Mexico	5.89	7.39	4.54	6.22	7.78	4.81	-	-	-
Seattle-Puget Sound	7.40	8.55	6.37	7.80	9.02	6.69	3.61	4.40	-
Utah	6.93	7.89	6.07	7.24	8.22	6.37	-	-	-
9 SEER Areas ^b	6.53	7.71	5.52	7.27	8.59	6.09	4.00	4.49	3.63
11 SEER Areas ^b	6.32	7.48	5.32	7.06	8.35	5.93	3.94	4.56	3.50
13 SEER Areas ^b	6.32	7.46	5.32	7.06	8.35	5.93	3.94	4.53	3.51
17 SEER Areas ^b	6.46	7.68	5.41	7.09	8.42	5.91	3.94	4.63	3.47

^a Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130)

^b The SEER 9 areas are San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah and Atlanta.

The SEER 11 areas comprise the SEER 9 areas plus San Jose-Monterey and Los Angeles.

The SEER 13 areas comprise the SEER 11 areas plus the Alaska Native Registry and Rural Georgia.

The SEER 17 areas comprise the SEER 13 areas plus California excluding SF/SJM/LA, Kentucky, Louisiana and New Jersey.

- Statistic not shown. Rate based on less than 16 cases for the time interval.

Table 3.17
Cancer of the Brain and Other Nervous System (Invasive)

Age-Adjusted SEER Death Rates^a
By Registry, Race and Sex

	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
<u>SEER Death Rates^a, 2004-2008</u>									
Atlanta & Rural Georgia	3.39	3.89	3.00	4.05	4.64	3.58	2.14	2.29	1.96
Atlanta	3.40	3.94	2.98	4.03	4.66	3.52	2.22	2.42	2.01
Rural Georgia	3.57	-	-	5.08	-	-	-	-	-
California	4.28	5.29	3.43	4.77	5.84	3.84	2.81	3.65	2.21
Greater Bay Area	3.88	4.90	3.05	4.62	5.81	3.61	2.16	2.50	1.98
San Francisco-Oakland	3.88	4.90	3.04	4.74	6.00	3.67	2.40	2.89	2.14
San Jose-Monterey	3.91	4.92	3.06	4.43	5.50	3.51	-	-	-
Los Angeles	4.13	5.08	3.34	4.67	5.66	3.83	3.11	4.71	2.05
Greater California	4.50	5.52	3.62	4.85	5.93	3.91	2.87	3.09	2.65
Connecticut	4.11	4.79	3.50	4.33	5.00	3.73	2.05	2.88	-
Detroit	4.28	5.37	3.45	4.75	5.88	3.82	2.76	3.53	2.27
Hawaii	2.27	2.92	1.69	4.15	4.91	3.56	-	-	-
Iowa	5.32	6.76	4.10	5.38	6.85	4.14	-	-	-
Kentucky	4.38	5.39	3.48	4.52	5.58	3.57	2.40	-	2.40
Louisiana	4.55	5.84	3.49	5.05	6.28	4.00	3.30	4.76	2.26
New Jersey	3.74	4.65	2.98	4.15	5.08	3.36	1.83	2.79	1.17
New Mexico	3.82	4.72	3.04	4.03	5.01	3.19	-	-	-
Seattle-Puget Sound	5.16	6.19	4.26	5.59	6.68	4.62	2.93	-	-
Utah	4.52	5.46	3.63	4.69	5.67	3.76	-	-	-
9 SEER Areas ^b	4.24	5.21	3.43	4.79	5.85	3.88	2.45	3.04	2.01
11 SEER Areas ^b	4.20	5.17	3.39	4.74	5.78	3.84	2.58	3.39	2.00
13 SEER Areas ^b	4.19	5.15	3.39	4.73	5.77	3.85	2.56	3.35	2.01
17 SEER Areas ^b	4.24	5.24	3.41	4.69	5.74	3.79	2.60	3.45	1.99
Total U.S.	4.27	5.22	3.48	4.61	5.60	3.76	2.46	3.06	2.02

^a US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.
Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

^b The SEER 9 areas are San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah and Atlanta.
The SEER 11 areas comprise the SEER 9 areas plus San Jose-Monterey and Los Angeles.
The SEER 13 areas comprise the SEER 11 areas plus the Alaska Native Registry and Rural Georgia.
The SEER 17 areas comprise the SEER 13 areas plus California excluding SF/SJM/LA, Kentucky, Louisiana and New Jersey.
- Statistic not shown. Rate based on less than 16 cases for the time interval.

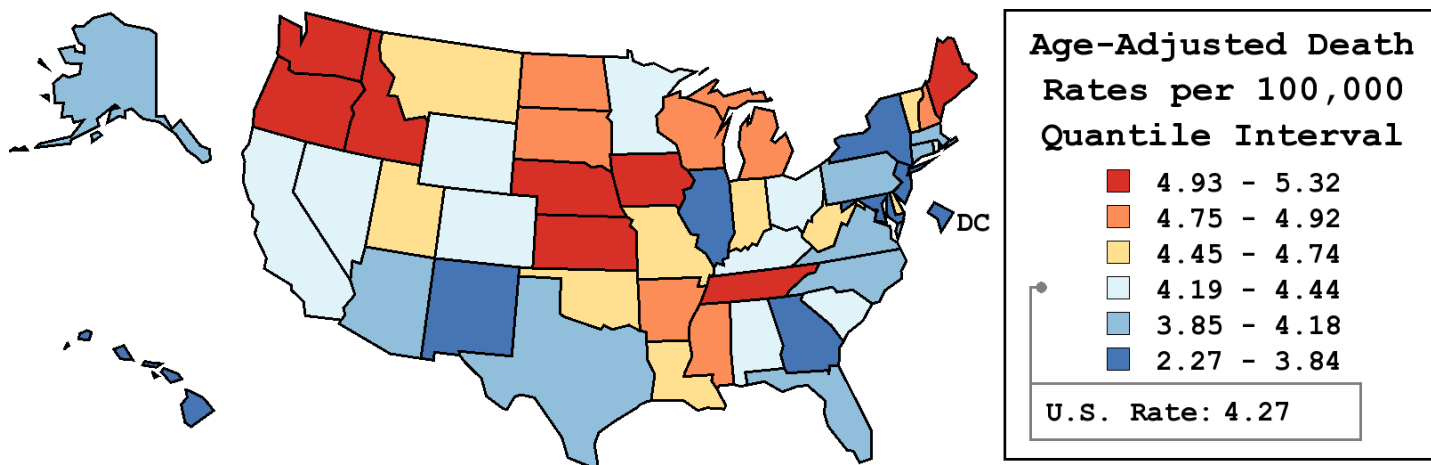
Table 3.18
Cancer of the Brain and Other Nervous System (Invasive)

Age-Adjusted Cancer Death^a Rates By State, All Races, 2004-2008

Males and Females

State	Rate	SE	Rank	PD
TOTAL U.S.	4.27	0.02		
High Five States				
Iowa	5.32 ^b	0.18	(01)	24.61 ^c
Washington	5.24 ^b	0.13	(02)	22.66 ^c
Idaho	5.22	0.27	(03)	22.29 ^c
Nebraska	5.15 ^b	0.24	(04)	20.62 ^c
Oregon	5.14 ^b	0.16	(05)	20.55 ^c
Low Five States				
Georgia	3.80 ^b	0.10	(47)	-10.97
New Jersey	3.74 ^b	0.09	(48)	-12.36
New York	3.67 ^b	0.06	(49)	-13.91
D.C.	3.28	0.34	(50)	-23.14 ^c
Hawaii	2.27 ^b	0.18	(51)	-46.90 ^c

State	Rate	SE	Rank	PD	State	Rate	SE	Rank	PD
Alabama	4.44	0.14	(26)	4.10	Montana	4.74	0.30	(17)	11.01
Alaska	4.18	0.43	(36)	-2.15	Nebraska	5.15 ^b	0.24	(04)	20.62 ^c
Arizona	4.08	0.11	(40)	-4.45	Nevada	4.21	0.19	(34)	-1.30
Arkansas	4.92 ^b	0.18	(09)	15.28 ^c	New Hampshire	4.89	0.27	(10)	14.69
California	4.28	0.05	(33)	0.31	New Jersey	3.74 ^b	0.09	(48)	-12.36
Colorado	4.33	0.14	(32)	1.37	New Mexico	3.82	0.20	(46)	-10.54
Connecticut	4.11	0.15	(37)	-3.79	New York	3.67 ^b	0.06	(49)	-13.91
Delaware	4.45	0.31	(24)	4.21	North Carolina	4.10	0.10	(38)	-3.88
D.C.	3.28	0.34	(50)	-23.14 ^c	North Dakota	4.84	0.38	(12)	13.34
Florida	3.94 ^b	0.06	(42)	-7.62	Ohio	4.44	0.09	(25)	4.12
Georgia	3.80 ^b	0.10	(47)	-10.97	Oklahoma	4.74	0.16	(16)	11.12
Hawaii	2.27 ^b	0.18	(51)	-46.90 ^c	Oregon	5.14 ^b	0.16	(05)	20.55 ^c
Idaho	5.22	0.27	(03)	22.29 ^c	Pennsylvania	4.07	0.08	(41)	-4.60
Illinois	3.84 ^b	0.08	(44)	-9.94	Rhode Island	4.42	0.28	(29)	3.57
Indiana	4.65	0.12	(19)	8.90	South Carolina	4.43	0.14	(28)	3.72
Iowa	5.32 ^b	0.18	(01)	24.61 ^c	South Dakota	4.85	0.34	(11)	13.57
Kansas	5.13 ^b	0.19	(06)	20.24 ^c	Tennessee	5.04 ^b	0.13	(07)	18.11 ^c
Kentucky	4.38	0.14	(30)	2.56	Texas	4.18	0.06	(35)	-2.08
Louisiana	4.55	0.14	(22)	6.56	Utah	4.52	0.21	(23)	6.02
Maine	5.03	0.26	(08)	17.94 ^c	Vermont	4.59	0.37	(20)	7.48
Maryland	3.83 ^b	0.12	(45)	-10.24	Virginia	3.90 ^b	0.10	(43)	-8.68
Massachusetts	4.10	0.11	(39)	-4.01	Washington	5.24 ^b	0.13	(02)	22.66 ^c
Michigan	4.81 ^b	0.10	(13)	12.74	West Virginia	4.66	0.21	(18)	9.23
Minnesota	4.33	0.13	(31)	1.46	Wisconsin	4.77 ^b	0.13	(15)	11.74
Mississippi	4.78	0.18	(14)	11.93	Wyoming	4.44	0.41	(27)	3.92
Missouri	4.57	0.12	(21)	7.03					



^a US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention. Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).
^b Difference between state rate and total U.S. rate is statistically significant ($p \leq .0002$).
^c Absolute percent difference between state rate and total U.S. rate is 15% or more.
SE Standard error of the rate.
PD Percent difference between state rate and total U.S. rate.
- Statistic not shown. Rate based on less than 16 cases for the time interval.

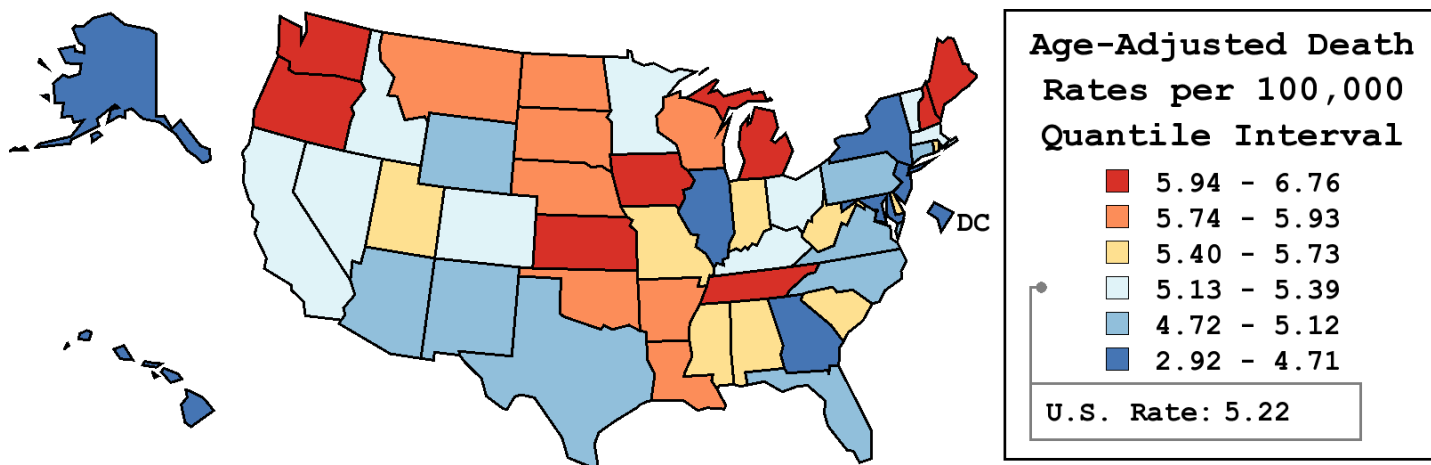
Table 3.19
Cancer of the Brain and Other Nervous System (Invasive)

Age-Adjusted Cancer Death^a Rates By State, All Races, 2004-2008

Males

State	Rate	SE	Rank	PD
TOTAL U.S.	5.22	0.03		
High Five States				
Iowa	6.76 ^b	0.30	(01)	29.66 ^c
Washington	6.46 ^b	0.21	(02)	23.76 ^c
Kansas	6.35 ^b	0.32	(03)	21.73 ^c
Oregon	6.29 ^b	0.26	(04)	20.52 ^c
New Hampshire	6.25	0.45	(05)	19.86 ^c
Low Five States				
Alaska	4.63	0.67	(47)	-11.33
Georgia	4.58 ^b	0.16	(48)	-12.20
Maryland	4.51 ^b	0.19	(49)	-13.65
D.C.	4.50	0.61	(50)	-13.71
Hawaii	2.92 ^b	0.30	(51)	-43.99 ^c

State	Rate	SE	Rank	PD	State	Rate	SE	Rank	PD
Alabama	5.40	0.22	(25)	3.60	Montana	5.83	0.48	(12)	11.80
Alaska	4.63	0.67	(47)	-11.33	Nebraska	5.93	0.38	(09)	13.70
Arizona	4.78	0.18	(41)	-8.31	Nevada	5.18	0.30	(33)	-0.63
Arkansas	5.75	0.29	(16)	10.17	New Hampshire	6.25	0.45	(05)	19.86 ^c
California	5.29	0.08	(29)	1.31	New Jersey	4.65 ^b	0.15	(46)	-10.80
Colorado	5.15	0.23	(34)	-1.27	New Mexico	4.72	0.32	(43)	-9.49
Connecticut	4.79	0.24	(40)	-8.10	New York	4.70 ^b	0.10	(45)	-9.92
Delaware	5.49	0.52	(20)	5.23	North Carolina	5.12	0.16	(35)	-1.93
D.C.	4.50	0.61	(50)	-13.71	North Dakota	5.80	0.62	(13)	11.14
Florida	4.76 ^b	0.10	(42)	-8.70	Ohio	5.38	0.14	(27)	3.19
Georgia	4.58 ^b	0.16	(48)	-12.20	Oklahoma	5.75	0.26	(15)	10.23
Hawaii	2.92 ^b	0.30	(51)	-43.99 ^c	Oregon	6.29 ^b	0.26	(04)	20.52 ^c
Idaho	5.38	0.40	(28)	3.04	Pennsylvania	4.97	0.13	(38)	-4.76
Illinois	4.71 ^b	0.13	(44)	-9.66	Rhode Island	5.52	0.46	(18)	5.89
Indiana	5.48	0.20	(21)	4.97	South Carolina	5.47	0.24	(23)	4.77
Iowa	6.76 ^b	0.30	(01)	29.66 ^c	South Dakota	5.78	0.55	(14)	10.77
Kansas	6.35 ^b	0.32	(03)	21.73 ^c	Tennessee	6.17 ^b	0.21	(06)	18.25 ^c
Kentucky	5.39	0.24	(26)	3.29	Texas	4.94	0.10	(39)	-5.39
Louisiana	5.84	0.25	(10)	11.97	Utah	5.46	0.34	(24)	4.71
Maine	6.14	0.42	(07)	17.64 ^c	Vermont	5.28	0.58	(30)	1.16
Maryland	4.51 ^b	0.19	(49)	-13.65	Virginia	4.98	0.18	(37)	-4.57
Massachusetts	5.22	0.18	(31)	0.01	Washington	6.46 ^b	0.21	(02)	23.76 ^c
Michigan	6.01 ^b	0.16	(08)	15.15 ^c	West Virginia	5.50	0.34	(19)	5.50
Minnesota	5.20	0.21	(32)	-0.30	Wisconsin	5.84	0.21	(11)	11.90
Mississippi	5.73	0.30	(17)	9.77	Wyoming	5.11	0.64	(36)	-2.11
Missouri	5.47	0.20	(22)	4.81					



^a US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention. Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).
^b Difference between state rate and total U.S. rate is statistically significant (p<=.0002).
^c Absolute percent difference between state rate and total U.S. rate is 15% or more.
SE Standard error of the rate.
PD Percent difference between state rate and total U.S. rate.
- Statistic not shown. Rate based on less than 16 cases for the time interval.

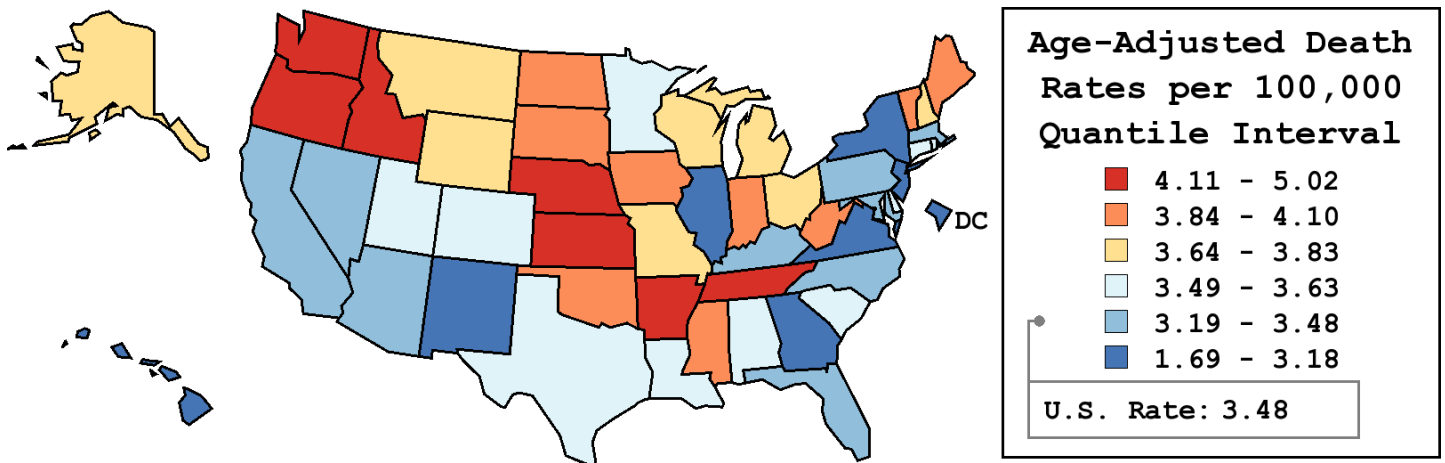
Table 3.20
Cancer of the Brain and Other Nervous System (Invasive)

Age-Adjusted Cancer Death^a Rates By State, All Races, 2004-2008

Females

State	Rate	SE	Rank	PD
TOTAL U.S.	3.48	0.02		
High Five States				
Idaho	5.02 ^b	0.37	(01)	44.32 ^c
Nebraska	4.41	0.30	(02)	26.81 ^c
Arkansas	4.22	0.23	(03)	21.38 ^c
Washington	4.20 ^b	0.16	(04)	20.72 ^c
Oregon	4.18	0.20	(05)	20.35 ^c
Low Five States				
New Mexico	3.04	0.24	(47)	-12.60
New Jersey	2.98 ^b	0.11	(48)	-14.20
New York	2.86 ^b	0.07	(49)	-17.81 ^c
D.C.	2.26	0.38	(50)	-34.88 ^c
Hawaii	1.69 ^b	0.22	(51)	-51.50 ^c

State	Rate	SE	Rank	PD	State	Rate	SE	Rank	PD
Alabama	3.63	0.16	(27)	4.48	Montana	3.77	0.37	(21)	8.47
Alaska	3.76	0.58	(22)	8.26	Nebraska	4.41	0.30	(02)	26.81 ^c
Arizona	3.47	0.15	(36)	-0.13	Nevada	3.30	0.23	(39)	-5.17
Arkansas	4.22	0.23	(03)	21.38 ^c	New Hampshire	3.72	0.32	(23)	7.08
California	3.43	0.06	(37)	-1.21	New Jersey	2.98 ^b	0.11	(48)	-14.20
Colorado	3.61	0.18	(29)	3.88	New Mexico	3.04	0.24	(47)	-12.60
Connecticut	3.50	0.19	(33)	0.69	New York	2.86 ^b	0.07	(49)	-17.81 ^c
Delaware	3.60	0.38	(30)	3.54	North Carolina	3.27	0.11	(40)	-5.99
D.C.	2.26	0.38	(50)	-34.88 ^c	North Dakota	3.95	0.47	(14)	13.57
Florida	3.23	0.08	(42)	-7.01	Ohio	3.65	0.10	(24)	5.13
Georgia	3.18	0.12	(44)	-8.57	Oklahoma	3.84	0.19	(16)	10.52
Hawaii	1.69 ^b	0.22	(51)	-51.50 ^c	Oregon	4.18	0.20	(05)	20.35 ^c
Idaho	5.02 ^b	0.37	(01)	44.32 ^c	Pennsylvania	3.35	0.09	(38)	-3.59
Illinois	3.16	0.10	(45)	-8.99	Rhode Island	3.56	0.34	(31)	2.49
Indiana	3.96	0.15	(12)	14.09	South Carolina	3.63	0.17	(26)	4.55
Iowa	4.10	0.22	(08)	18.12 ^c	South Dakota	4.08	0.43	(10)	17.53 ^c
Kansas	4.11	0.23	(07)	18.19 ^c	Tennessee	4.14 ^b	0.15	(06)	19.24 ^c
Kentucky	3.48	0.17	(35)	0.26	Texas	3.55	0.08	(32)	2.06
Louisiana	3.49	0.17	(34)	0.36	Utah	3.63	0.26	(25)	4.58
Maine	4.10	0.32	(09)	18.06 ^c	Vermont	3.89	0.47	(15)	11.89
Maryland	3.26	0.15	(41)	-6.22	Virginia	3.05	0.12	(46)	-12.16
Massachusetts	3.19	0.13	(43)	-8.24	Washington	4.20 ^b	0.16	(04)	20.72 ^c
Michigan	3.83	0.12	(18)	10.09	West Virginia	3.95	0.27	(13)	13.63
Minnesota	3.61	0.16	(28)	4.02	Wisconsin	3.81	0.16	(19)	9.73
Mississippi	4.01	0.22	(11)	15.48 ^c	Wyoming	3.80	0.53	(20)	9.47
Missouri	3.83	0.15	(17)	10.33					



^a US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention. Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).
^b Difference between state rate and total U.S. rate is statistically significant ($p \leq .0002$).
^c Absolute percent difference between state rate and total U.S. rate is 15% or more.
SE Standard error of the rate.
PD Percent difference between state rate and total U.S. rate.
- Statistic not shown. Rate based on less than 16 cases for the time interval.

Table 3.21
Brain and Other Nervous System (Invasive)

Estimated United States Cancer Prevalence Counts^a on January 1, 2008
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	25 to <30	0 to <18 ^e	0 to <33 ^e	>=33 ^g	Complete ^h
<u>Race</u>	<u>Sex</u>										
All Races ^b	Both Sexes	39,945	22,967	18,150	13,988	8,607	5,950	91,505	114,738	13,455	128,193
	Males	21,969	11,886	10,031	7,279	4,647	2,992	49,475	61,462	6,162	67,624
	Females	17,976	11,081	8,119	6,709	3,960	2,958	42,030	53,276	7,293	60,569
White ^b	Both Sexes	35,337	20,312	15,919	12,382	7,711	5,297	80,458	101,299	5,867	107,166
	Males	19,829	10,567	8,830	6,372	4,138	2,671	43,955	54,688	3,394 ⁱ	58,082
	Females	15,508	9,745	7,089	6,010	3,573	2,626	36,503	46,611	2,473 ⁱ	49,084
Black ^b	Both Sexes	2,891	1,728	1,407	1,117	621	480	7,002	8,725	+	+
	Males	1,295	915	729	620	364	227	3,490	4,373	+	+
	Females	1,596	813	678	497	257	253	3,512	4,352	+	+
Asian/ Pacific Islander ^c	Both Sexes	1,146	600	507	+	+	+	2,440	+	+	+
	Males	555	303	250	+	+	+	1,214	+	+	+
	Females	591	297	257	+	+	+	1,226	+	+	+
Hispanic ^d	Both Sexes	4,197	2,640	1,602	+	+	+	9,310	+	+	+
	Males	2,334	1,358	802	+	+	+	4,944	+	+	+
	Females	1,863	1,282	800	+	+	+	4,366	+	+	+

Estimated prevalence percent^a on January 1, 2008, of the SEER 11 population diagnosed in the previous 18 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</u>	<u>Sex</u>											
All Races ^c	Both Sexes	0.0257%	0.0135%	0.0294%	0.0231%	0.0243%	0.0318%	0.0321%	0.0318%	0.0242%	0.0147%	0.0257%
	Males	0.0279%	0.0141%	0.0316%	0.0240%	0.0265%	0.0346%	0.0357%	0.0357%	0.0272%	0.0157%	0.0278%
	Females	0.0235%	0.0130%	0.0271%	0.0221%	0.0219%	0.0290%	0.0287%	0.0283%	0.0219%	0.0142%	0.0236%
White ^c	Both Sexes	0.0287%	0.0147%	0.0328%	0.0256%	0.0278%	0.0364%	0.0359%	0.0348%	0.0263%	0.0156%	0.0287%
	Males	0.0314%	0.0155%	0.0359%	0.0264%	0.0308%	0.0395%	0.0392%	0.0399%	0.0296%	0.0179%	0.0312%
	Females	0.0261%	0.0138%	0.0295%	0.0247%	0.0247%	0.0333%	0.0326%	0.0300%	0.0236%	0.0144%	0.0262%
Black ^c	Both Sexes	0.0163%	0.0101%	0.0193%	0.0174%	0.0135%	0.0169%	0.0191%	0.0207%	0.0175%	0.0150%	0.0164%
	Males	0.0164%	0.0099%	0.0193%	0.0175%	0.0140%	0.0150%	0.0227%	0.0223%	0.0181%	-	0.0162%
	Females	0.0162%	0.0103%	0.0193%	0.0174%	0.0130%	0.0185%	0.0162%	0.0195%	0.0171%	0.0204%	0.0163%
Asian/ Pacific Islander ^c	Both Sexes	0.0151%	0.0097%	0.0186%	0.0129%	0.0135%	0.0172%	0.0188%	0.0200%	0.0152%	0.0071%	0.0153%
	Males	0.0153%	0.0098%	0.0176%	0.0136%	0.0125%	0.0200%	0.0214%	0.0158%	0.0147%	-	0.0154%
	Females	0.0149%	0.0096%	0.0196%	0.0122%	0.0143%	0.0147%	0.0165%	0.0236%	0.0156%	0.0072%	0.0151%
Hispanic ^d	Both Sexes	-	-	-	-	-	-	-	-	-	-	-
	Males	-	-	-	-	-	-	-	-	-	-	-
	Females	-	-	-	-	-	-	-	-	-	-	-

^a US 2008 cancer prevalence counts are based on 2008 cancer prevalence proportions from the SEER registries and 1/1/2008 US population estimates based on the average of 2007 and 2008 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 and Rural Georgia (d) NHIA for Hispanic for SEER 11 Areas and Rural Georgia.

^e Maximum limited-duration prevalence: 33 years for 1975-2008 SEER 9 data; 18 years for 1990-2008 SEER 11 data (used to calculate prevalence for Hispanics and Asian Pacific Islanders).

^f Percentages are age-adjusted to the 2000 US Standard Population (19 age groups - Census P25-1130) by 5-year age groups.

^{g h i} (g) Cases diagnosed more than 33 years 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 <33 and >=33. (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 Observed Incidence, SEER Delay Adjusted Incidence and US Death Rates^a Cancer of the Brain and Other Nervous System, by Race and Sex

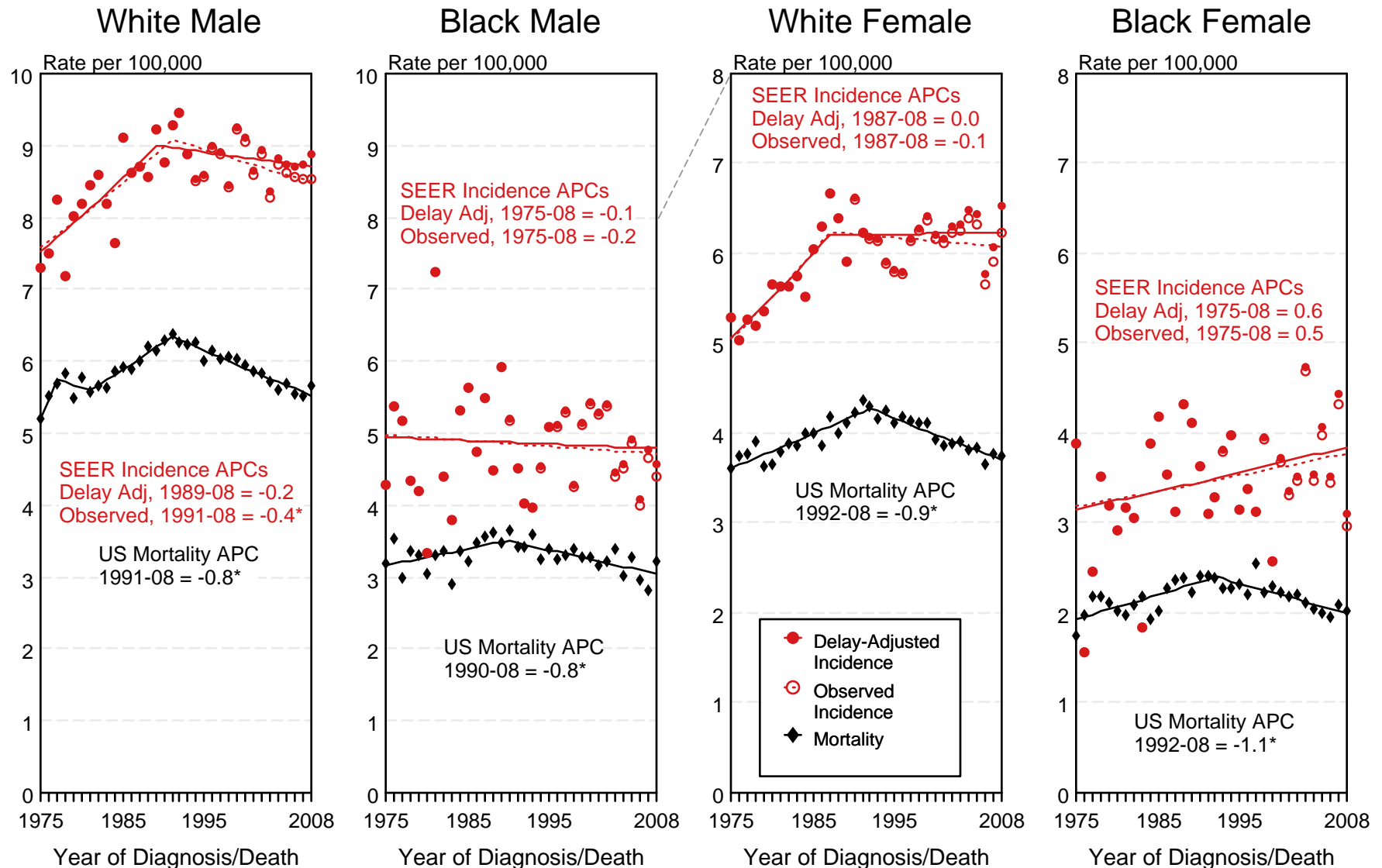


Figure 3.1

^a Source: SEER 9 areas and US Mortality Files (National Center for Health Statistics, CDC). Rates are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103). Regression lines and APCs are calculated using the Joinpoint Regression Program Version 3.5, April 2011, 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 ($p < 0.05$).

SEER Incidence and US Death Rates^a

Cancer of the Brain and Other Nervous System, Both Sexes

Joinpoint Analyses for Whites and Blacks from 1975-2008

and for Asian/Pacific Islanders, American Indians/Alaska Natives and Hispanics from 1992-2008

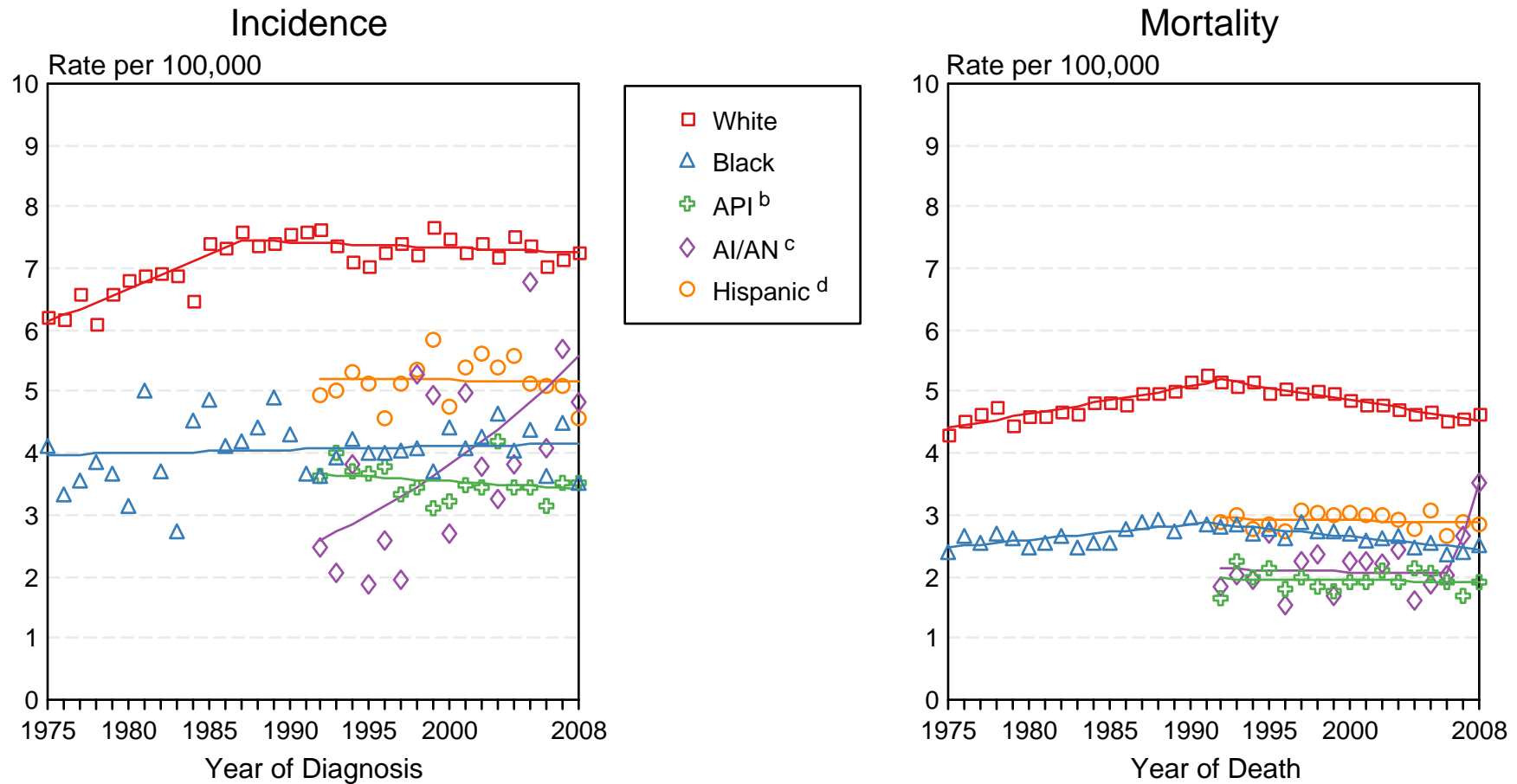


Figure 3.2

Source: Incidence data for whites and blacks are from the SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta). Incidence data for Asian/Pacific Islanders, American Indians/Alaska Natives and Hispanics are from the SEER 13 Areas (SEER 9 Areas, San Jose-Monterey, Los Angeles, Alaska Native Registry and Rural Georgia). Mortality data are from US Mortality Files, National Center for Health Statistics, CDC.

^a Rates are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103).

Regression lines are calculated using the Joinpoint Regression Program Version 3.5, April 2011, National Cancer Institute. Joinpoint analyses for Whites and Blacks during the 1975-2008 period allow a maximum of 5 joinpoints. Analyses for other ethnic groups during the period 1992-2008 allow a maximum of 3 joinpoints.

^b API = Asian/Pacific Islander.

^c AI/AN = American Indian/Alaska Native. Rates for American Indian/Alaska Native are based on the CHSDA (Contract Health Service Delivery Area) counties.

^d Hispanic is not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives. Incidence data for Hispanics are based on NHIA and exclude cases from the Alaska Native Registry. Mortality data for Hispanics exclude cases from Connecticut, the District of Columbia, Maine, Maryland, Minnesota, New Hampshire, New York, North Dakota, Oklahoma, and Vermont.

SEER Observed Incidence and SEER Delay Adjusted Incidence Rates^a SEER 9 Areas Compared to SEER 13 Areas Cancer of the Brain and Other Nervous System, Male, by Race

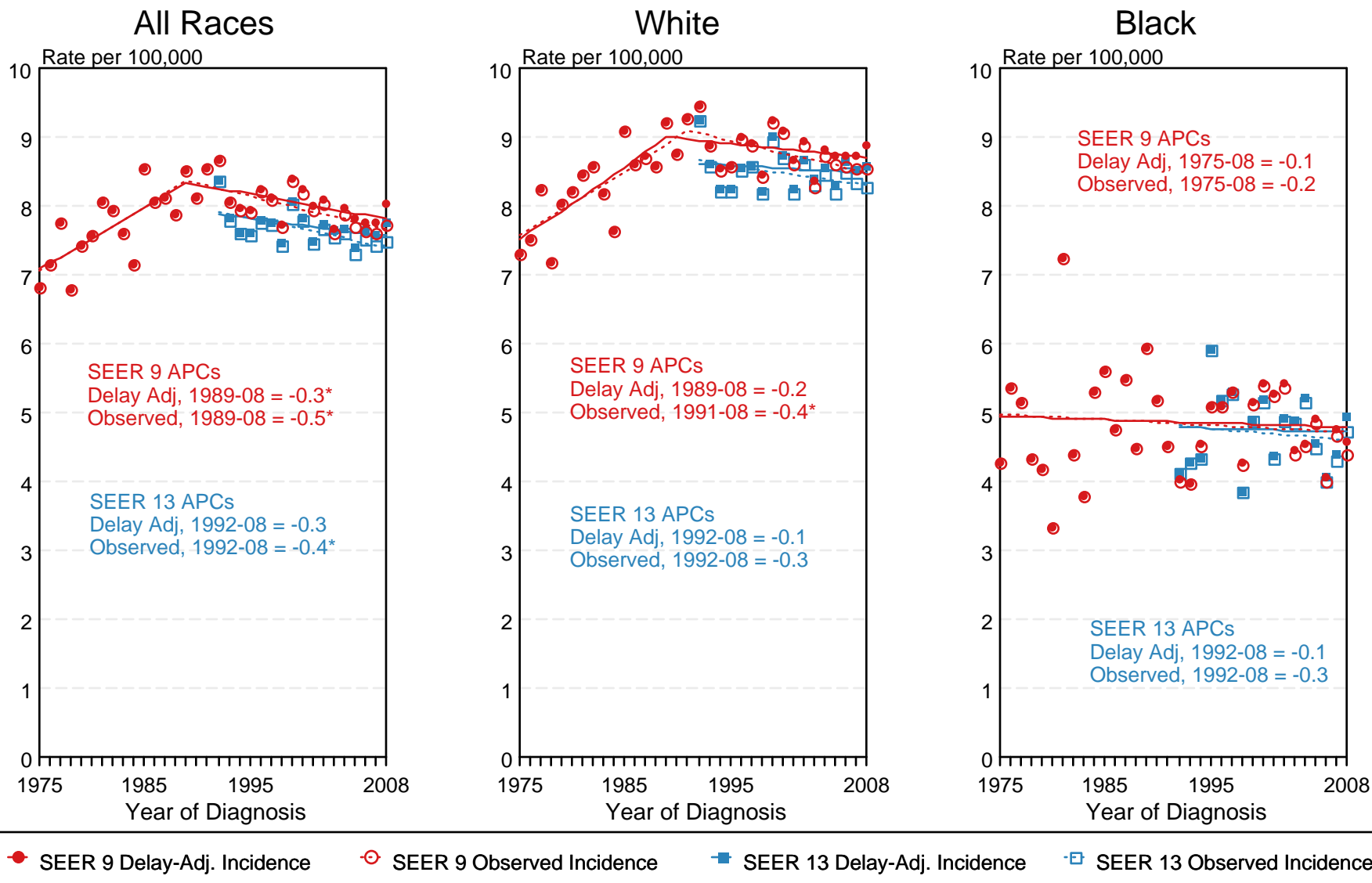


Figure 3.3

^a Source: SEER 9 areas and SEER 13 areas.
Rates are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103).
Regression lines and APCs are calculated using the Joinpoint Regression Program Version 3.5, April 2011, 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 ($p < 0.05$).

SEER Observed Incidence and SEER Delay Adjusted Incidence Rates^a SEER 9 Areas Compared to SEER 13 Areas Cancer of the Brain and Other Nervous System, Female, by Race

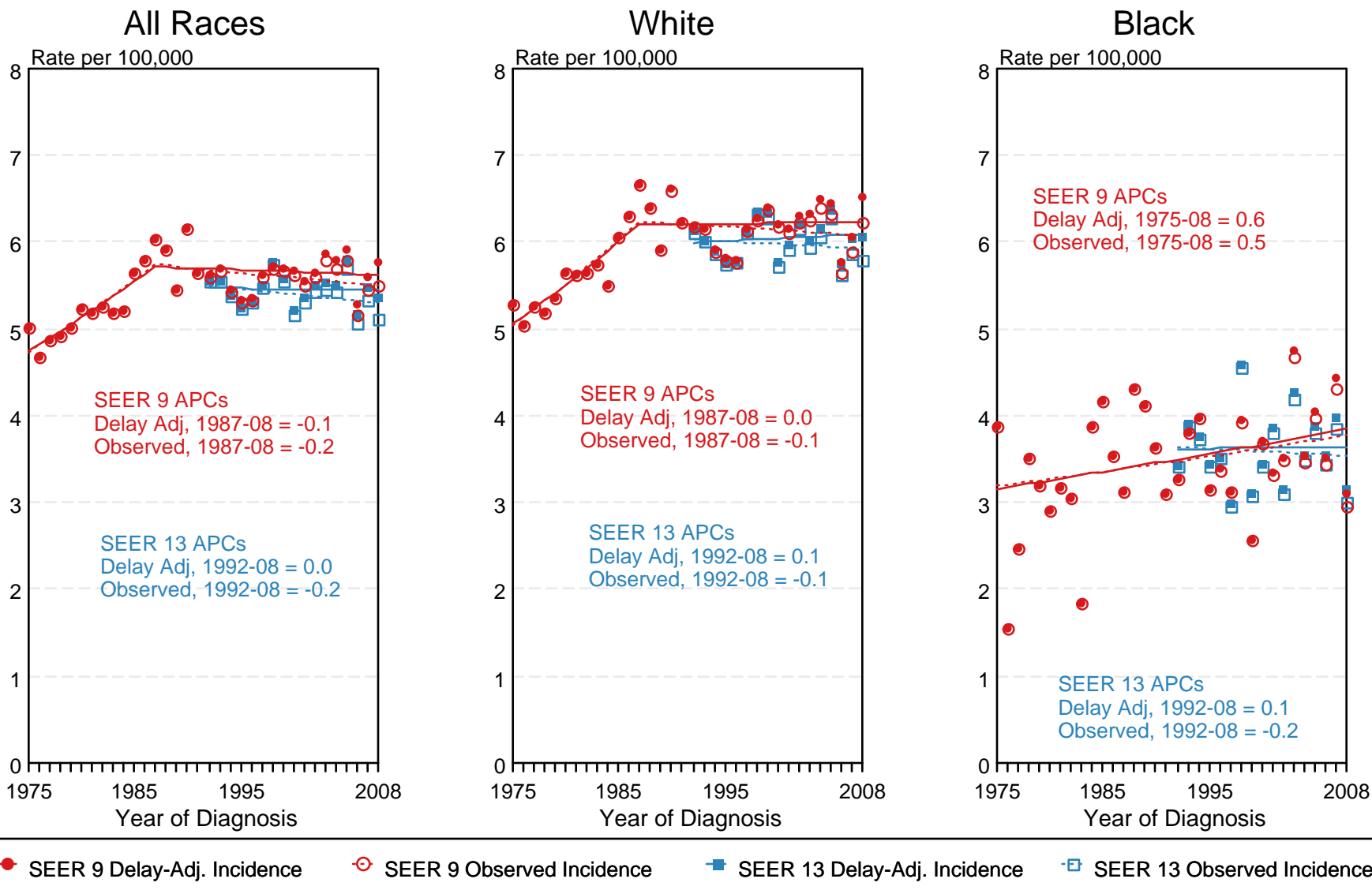


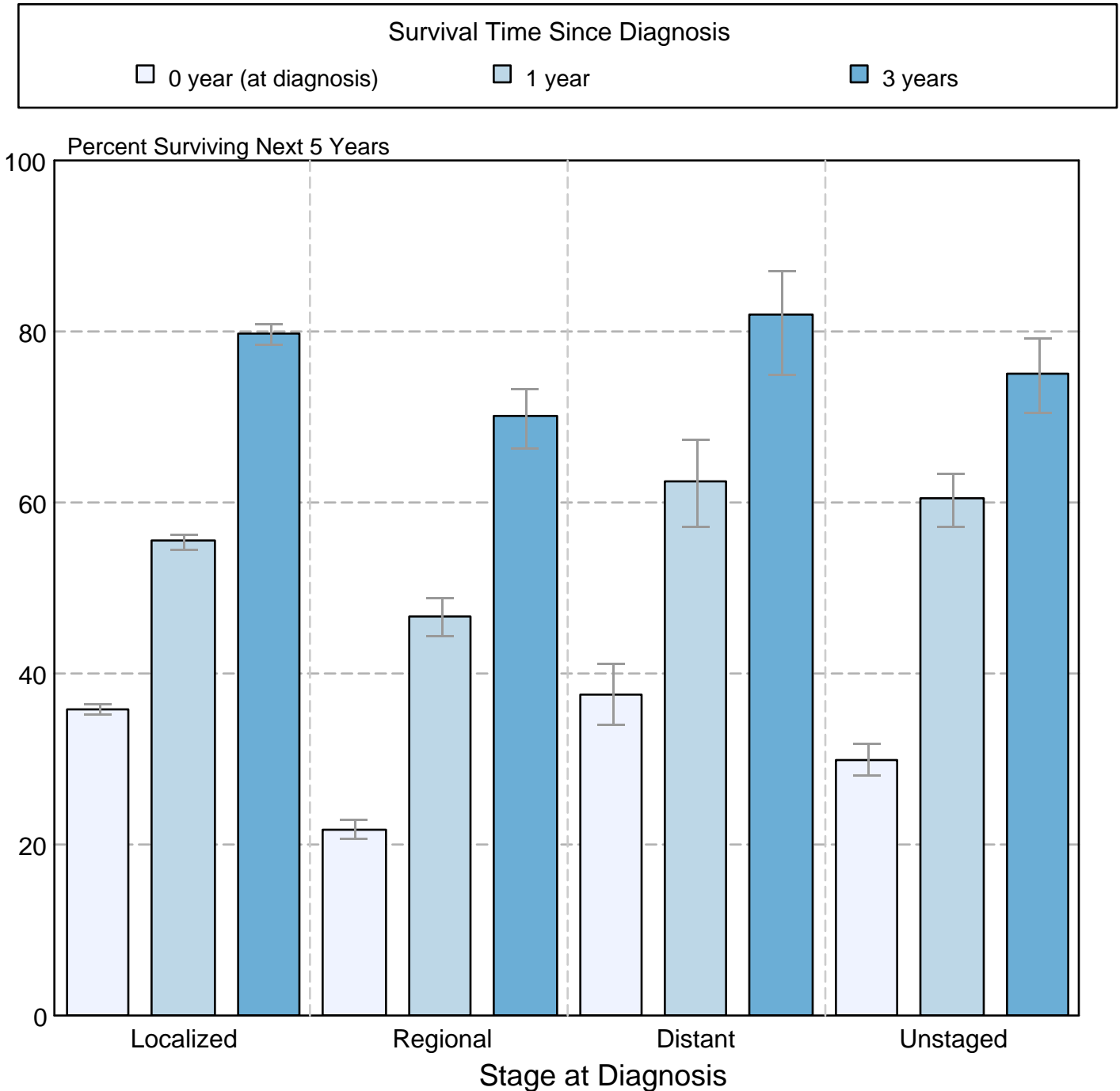
Figure 3.4

^a Source: SEER 9 areas and SEER 13 areas.
 Rates are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103).
 Regression lines and APCs are calculated using the Joinpoint Regression Program Version 3.5, April 2011, 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 ($p < 0.05$).

Figure 3.5

Cancer of the Brain and Other Nervous System 5-Year SEER Conditional Relative Survival and 95% Confidence Intervals

Probability of surviving the next 5 years given the cohort
has already survived 0, 1, or 3 years
1998-2007 by stage at diagnosis



Source: SEER 17 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, and New Jersey). California excluding SF/SJM/LA, Kentucky, Louisiana, and New Jersey contribute cases for diagnosis years 2000-2007. The remaining 13 SEER Areas contribute cases for the entire period 1998-2007.

Percent surviving is not shown if based on less than 25 cases.

Confidence intervals are not shown if length of the confidence interval is greater than 5 times the standard error.