

Section 28
Childhood Cancer by Site
Incidence, Survival and Mortality

The site groupings used in this section correspond to those used in the rest of the Cancer Statistics Review. While these groupings are not as appropriate for children as they are for adults, they are necessary in order to be able to compare incidence to mortality. Benign brain tumors(2004+) and myelodysplastic syndromes(2001-2005) are not included.

Childhood cancer is better categorized by groupings based on histologic type and site rather than primary site alone (see section XXIX for Childhood Cancer by the International Classification of Childhood Cancer). For the leukemias and lymphomas, the categories are similar, but for solid tumors the categories can be quite different and the different terminology confusing. For example, in this section 'soft tissue' refers to any type of tumor that arises in connective or soft tissue in contrast to 'soft tissue sarcomas' in the other section, which refers to soft tissue sarcomas in any primary site.

Rates are presented per 100,000 children in this section. In contrast in the other childhood cancer section rates are presented per million children.

Table 28.1

Age-Adjusted SEER Cancer Incidence^a and U.S. Death^b Rates, 2002-2006

By Primary Cancer Site

All Races, Males and Females

Site	Ages 0-14						Ages 0-19					
	Incidence			Mortality			Incidence			Mortality		
	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females
All Sites												
All Races	15.1	16.1	14.0				16.6	17.7	15.5			
Whites	15.8	16.9	14.6				17.6	18.8	16.3			
Blacks	11.5	12.0	11.1				12.2	12.5	11.8			
Bone & Joint	0.7	0.7	0.7				0.9	1.0	0.8			
Brain & Other nervous	3.2	3.4	3.0				2.9	3.1	2.7			
Hodgkin lymphoma	0.6	0.7	0.4				1.2	1.2	1.1			
Kidney & Renal pelvis	0.8	0.7	0.8				0.6	0.6	0.7			
Leukemia	5.0	5.5	4.5				4.5	5.1	3.9			
Acute lymphocytic	4.0	4.4	3.5				3.4	3.9	2.9			
Non-Hodgkin lymphoma	0.9	1.1	0.6				1.1	1.4	0.8			
Soft tissue	1.0	1.1	1.0				1.1	1.1	1.0			

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

^b 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 could not be calculated. Rate based on less than 16 cases for the time interval.

Table 28.2

Age-Adjusted SEER Cancer Incidence Rates^a, 1975-2006

By Primary Cancer Site

All Races, Males and Females

Year of Diagnosis

Age/Site	1975	1980	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<u>Ages 0-14</u>																				
All Sites																				
All Races	11.5	12.9	14.5	14.2	15.2	13.4	15.0	13.9	14.0	14.7	14.0	15.3	14.5	15.3	15.6	15.4	13.1	15.1	16.4	14.0
Whites	12.0	13.2	15.5	14.3	16.2	13.9	15.3	14.5	14.8	15.0	14.7	16.2	15.6	16.6	16.9	16.8	13.9	15.8	17.3	14.6
Blacks	8.6	11.1	10.1	12.3	11.6	12.0	12.4	12.2	11.5	11.6	11.2	10.0	10.3	11.8	10.6	11.2	9.8	13.3	12.7	10.5
Bone & Joint	0.5	0.7	0.8	0.7	0.9	0.5	0.6	0.8	0.8	0.5	0.9	0.6	0.6	0.6	0.6	0.7	0.5	0.6	0.6	0.6
Brain & Other nervous	2.3	2.8	3.0	3.5	3.5	3.2	3.4	3.3	3.3	3.1	2.7	3.2	3.4	3.4	3.8	3.7	3.0	3.2	3.3	2.8
Hodgkin lymphoma	0.7	0.5	0.7	0.7	0.6	0.5	0.6	0.5	-	0.6	0.6	0.6	0.4	0.6	0.5	0.5	0.4	0.5	0.5	0.7
Kidney & Renal pelvis	0.7	0.8	0.9	0.8	0.9	0.7	1.0	1.2	0.6	1.0	1.0	1.1	0.7	1.0	0.9	0.9	0.7	0.7	0.9	0.6
Leukemia	3.3	4.0	4.6	4.4	4.6	4.0	4.2	3.7	4.4	4.6	4.3	4.8	4.7	4.6	4.4	4.8	4.0	5.0	5.2	4.5
Acute lymphocytic	2.2	3.1	3.5	3.5	3.5	3.2	3.1	2.9	3.6	3.6	3.5	3.9	3.6	3.5	3.5	4.0	3.2	3.7	4.1	3.4
Non-Hodgkin lymphoma	1.0	0.7	0.7	0.8	0.9	0.8	0.8	1.0	0.9	0.6	0.9	0.9	0.8	1.0	1.0	1.0	1.0	0.8	1.1	0.9
Soft tissue	0.9	0.9	0.9	0.7	1.1	0.8	0.6	0.9	1.0	1.1	1.0	1.1	0.9	1.0	1.2	1.0	0.8	1.0	1.5	0.9
<u>Ages 0-19</u>																				
All Sites																				
All Races	12.9	14.4	15.9	15.7	16.4	16.0	16.1	15.5	15.7	16.1	15.7	16.3	15.6	16.8	17.0	17.4	15.7	16.3	17.6	15.4
Whites	13.4	14.9	17.0	16.0	17.6	16.9	16.7	16.2	16.7	16.5	16.8	17.4	16.7	18.2	18.4	19.3	16.7	17.5	18.9	16.1
Blacks	10.8	10.9	10.5	13.2	12.3	12.3	12.9	13.0	12.3	12.6	11.1	11.3	10.9	12.8	11.3	11.1	11.2	13.1	12.8	11.5
Bone & Joint	0.7	0.9	1.0	0.8	1.0	0.9	0.8	1.0	0.9	0.7	1.2	0.8	0.7	0.8	0.9	1.0	0.8	0.7	0.8	0.8
Brain & Other nervous	2.1	2.5	2.7	3.2	3.0	3.3	3.0	2.9	3.0	3.0	2.6	2.8	3.0	3.1	3.4	3.3	2.9	2.9	2.9	2.6
Hodgkin lymphoma	1.5	1.2	1.4	1.3	1.4	1.4	1.3	1.3	0.9	1.4	1.3	1.4	1.1	1.1	1.1	1.2	1.0	1.1	0.9	1.1
Kidney & Renal pelvis	0.5	0.6	0.7	0.6	0.7	0.6	0.9	0.9	0.5	0.7	0.8	0.8	0.6	0.8	0.7	0.7	0.6	0.6	0.8	0.5
Leukemia	3.0	3.5	4.0	3.9	4.1	3.7	3.7	3.4	3.9	4.0	3.7	4.1	4.0	4.1	3.9	4.5	3.8	4.4	4.6	4.0
Acute lymphocytic	1.9	2.5	2.9	2.9	3.0	2.6	2.6	2.5	3.1	2.9	2.9	3.3	2.9	3.0	2.8	3.5	2.8	3.2	3.4	3.0
Non-Hodgkin lymphoma	1.0	0.8	1.0	1.0	1.1	1.0	0.9	1.2	1.1	1.0	1.1	1.0	0.9	1.3	1.1	1.2	1.3	1.1	1.3	1.2
Soft tissue	0.8	0.9	0.9	0.8	1.1	0.7	0.7	0.7	1.1	1.0	1.0	1.1	1.0	1.2	1.1	1.0	0.8	1.0	1.5	1.0

^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 could not be calculated. Rate based on less than 16 cases for the time interval.

Table 28.6

Trends in SEER Incidence^a Using the Joinpoint Regression Program,
1975-2006 With up to Four Joinpoints By Primary Cancer Site And Age At Diagnosis
Males and Females

	<u>Joinpoint Trend 1</u>		<u>Joinpoint Trend 2</u>		<u>Joinpoint Trend 3</u>		<u>Joinpoint Trend 4</u>		<u>Joinpoint Trend 5</u>		<u>AAPC^b</u>
	Years	APC	Years	APC	Years	APC	Years	APC	Years	APC	2002-2006
<u>Ages 0-14</u>											
All Sites											
All Races	1975-2006	0.6*									0.6*
Whites	1975-2006	0.7*									0.7*
Blacks	1975-2006	0.3									0.3
Bone & Joint	1975-1979	12.6	1979-2006	-0.5							-0.5
Brain & Other nervous system	1975-1983	-0.4	1983-1986	9.5	1986-2006	-0.2					-0.2
Hodgkin lymphoma	1975-2006	-1.1*									-1.1*
Kidney & Renal pelvis	1975-2006	-0.2									-0.2
Leukemia	1975-2006	0.7*									0.7*
Acute lymphocytic leukemia	1975-2006	0.8*									0.8*
Non-Hodgkin lymphoma	1975-2006	0.4									0.4
Soft tissue	1975-2006	1.3*									1.3*
<u>Ages 0-19</u>											
All Sites											
All Races	1975-2006	0.6*									0.6*
Whites	1975-2006	0.7*									0.7*
Blacks	1975-2006	0.1									0.1
Bone & Joint	1975-2006	0.2									0.2
Brain & Other nervous system	1975-1983	-0.6	1983-1986	9.3	1986-2006	-0.3					-0.3
Hodgkin lymphoma	1975-2006	-1.1*									-1.1*
Kidney & Renal pelvis	1975-2006	0.0									0.0
Leukemia	1975-2006	0.7*									0.7*
Acute lymphocytic leukemia	1975-2006	0.9*									0.9*
Non-Hodgkin lymphoma	1975-2006	0.9*									0.9*
Soft tissue	1975-2006	1.3*									1.3*

Joinpoint Regression Program Version 3.3.1, April 2008, National Cancer Institute. (<http://srab.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 The AAPC is the Average Annual Percent Change and is based on the APCs calculated by Joinpoint.

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

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

Table 28.8

5-Year Relative Survival Rates (Percent)
 By Selected Primary Cancer Site and Year of Diagnosis
 All Races, Males and Females

Site	Ages 0-14								
	1975-1977	1978-1980	1981-1983	1984-1986	1987-1989	1990-1992	1993-1995	1996-1998	1999-2005
All Sites									
All Races	58.1	62.6	66.9	68.2	71.5	75.7	77.4	79.0	81.3 ^c
Whites	58.1	63.1	67.6	70.1	72.2	76.7	78.3	80.4	82.4 ^c
Blacks	57.3	57.7	62.2	56.6	65.3	71.0	73.0	75.3	74.2 ^c
Bone & Joint	49.9 ^d	47.8	56.8 ^d	57.9 ^d	66.8 ^d	66.8	74.1	70.0	71.8 ^c
Brain & ONS	56.9	57.6	56.3	61.7	63.9	64.4	70.4	74.7	73.8 ^c
Hodgkin lymphoma	80.5	87.7	88.0	90.9	87.1	96.8	94.6	96.1	95.4 ^c
Leukemia	50.4	58.3	62.9	63.9	71.0	75.5	76.0	80.2	83.6 ^c
Acute lymphocytic	57.6	66.1	71.3	72.6	77.8	83.1	83.8	86.8	89.0 ^c
Acute myeloid	18.8	25.8	26.7 ^d	30.5 ^d	37.1 ^d	41.0	41.7 ^d	48.6	60.2 ^c
Neuroblastoma ^a	52.4	56.9	54.5	52.3	62.2	76.4	67.3	65.5	74.2 ^c
Non-Hodgkin lymphoma	43.5	52.7	66.9	70.3	70.7	76.1	80.7	83.3	86.3 ^c
Soft tissue	61.0	74.9	69.2	73.0	65.6	79.7	76.7	69.9	81.0 ^c
Wilms' tumor ^b	73.1	79.0	86.6	90.7	92.1	91.9	91.7	91.6	91.2 ^c
Site	Ages 0-19								
	1975-1977	1978-1980	1981-1983	1984-1986	1987-1989	1990-1992	1993-1995	1996-1998	1999-2005
All Sites									
All Races	61.6	65.3	68.3	70.6	73.5	76.2	77.8	79.6	81.0 ^c
Whites	61.5	65.9	69.1	72.5	75.0	77.5	78.6	80.9	82.2 ^c
Blacks	59.5	60.0	62.5	58.3	64.3	68.6	74.0	73.6	74.4 ^c
Bone & Joint	50.4	48.1	51.2	56.6	64.0	68.4	68.7	66.8	68.5 ^c
Brain & ONS	58.8	58.0	58.0	63.9	66.0	66.4	71.4	75.6	74.2 ^c
Hodgkin lymphoma	86.0	88.7	85.5	90.9	89.0	94.3	93.9	94.9	95.5 ^c
Leukemia	45.5	53.5	58.1	60.6	67.6	71.3	72.0	76.5	78.7 ^c
Acute lymphocytic	54.1	62.3	67.1	70.3	75.0	79.8	81.4	84.2	85.1 ^c
Acute myeloid	18.7	26.2	26.4	31.4	37.6	41.0	39.4	46.2	55.0 ^c
Neuroblastoma ^a	52.7	57.0	53.4	52.5	60.7	76.1	67.3	65.7	73.9 ^c
Non-Hodgkin lymphoma	44.6	53.4	63.8	67.7	70.4	72.2	77.9	81.4	84.4 ^c
Soft tissue	65.2	69.3	68.4	72.7	67.4	69.5	74.3	71.7	75.6 ^c
Wilms' tumor ^b	72.6	78.4	86.7	91.0	92.1	91.3	91.7	91.7	91.2 ^c

Source: SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta).

Rates are based on follow-up of patients into 2006.

Note: Neuroblastoma and Wilms' tumor are not mutually exclusive from the other tumors presented in table.

^a Neuroblastoma is defined as histologies 9490-9509.

^b Wilms' tumor is defined as histologies 8959-8960.

^c The difference in rates between 1975-1977 and 1999-2005 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 due to fewer than 25 cases during the time period.

Table 28.9

Childhood Cancer
SEER Incidence, U.S. Death and 5-Year Relative Survival Rates
For Top Cancer Sites^f By 5-Year Age Groups
All Races, Males and Females

Age/Site	SEER Incidence ^a					US Mortality ^b					Survival ^a	
	2002-2006 Num Cases	2002-2006 Rate	1975-2006 APC	1975-1990 APC	1991-2006 APC	2002-2006 Num Deaths	2002-2006 Rate	1975-2006 APC	1975-1990 APC	1991-2006 APC	1975-1977	1999-2005
<u>Ages 0-4</u>												
All Sites	5,723	21.4	0.8*	1.2*	0.4						57.3	82.3 ^c
Soft tissue	446	1.7	1.3*		0.1						61.1 ^d	82.3 ^c
Kidney and Renal pelvis	472	1.8	-0.1	0.1	-1.6						71.8	90.7 ^c
Eye and Orbit	352	1.3	0.5	1.6	-0.6						87.1 ^d	95.7 ^c
Brain and Other nervous	1,050	3.9	1.1*	3.6*	0.4 [#]						52.5	71.8 ^c
Other endocrine ^g	372	1.4	-	-	-						35.7 ^d	68.7 ^c
Leukemia	2,193	8.2	0.9*	1.0*	1.1						55.4	86.1 ^c
Acute lymphocytic	1,757	6.6	0.9*	1.4*	0.9						63.2	90.9 ^c
<u>Ages 5-9</u>												
All Sites	2,949	11.1	0.2	1.3*	0.3						58.5	79.9 ^c
Brain and Other nervous	823	3.1	0.3	1.7	-0.2						58.0	71.2 ^c
Leukemia	1,048	3.9	0.5	2.2*	0.4 [@]						52.3	87.4 ^c
Acute lymphocytic	885	3.3	0.7*	2.8*	0.7 [@]						55.6	90.9 ^c
<u>Ages 10-14</u>												
All Sites	3,673	13.0	0.7*	1.0*	0.4						58.9	80.8 ^c
Bone and Joint	377	1.3	0.0	2.1*	-1.0 [#]						52.8 ^d	70.1 ^c
Brain and Other nervous	713	2.5	1.0*	0.8	-1.0						59.5	79.5 ^c
Hodgkin lymphoma	329	1.2	-1.0*	-0.6	-1.3						78.7	96.9 ^c
Leukemia	865	3.1	0.6	1.9	1.3						35.2	71.1 ^c
Acute lymphocytic	603	2.1	0.9*	3.1*	1.3						43.6 ^d	79.2 ^c
<u>Ages 15-19</u>												
All Sites	5,781	21.2	0.5*	1.0*	0.1 [#]						67.8	80.5 ^c
Bone and Joint	417	1.5	0.2	0.8	-0.6						51.0 ^d	64.0 ^c
Melanoma of the skin	450	1.7	1.6*	2.9*	1.9						76.2 ^d	98.7 ^c
Testis(males)	484	3.5	1.3*	0.8	0.2						65.4 ^d	94.5 ^c
Brain and Other nervous	584	2.1	0.3	1.3	-1.0						65.0	76.2 ^c
Thyroid	482	1.8	1.0*	1.5	1.2						100.0	98.3
Hodgkin lymphoma	792	2.9	-1.1*	0.0	-2.9* [#]						88.9	95.6 ^c
Non-Hodgkin lymphoma	504	1.8	1.7*	3.1*	1.2						46.9 ^d	81.1 ^c
Leukemia	838	3.1	0.9*	0.0	1.4						24.4	52.8 ^c
Acute lymphocytic	475	1.7	1.3*	2.0	2.5*						29.5 ^d	54.6 ^c

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

Note: Incidence and death rates are per 100,000 and are age-adjusted (as appropriate) to the 2000 US Std Population (19 age groups - Census P25-1130). Survival rates are expressed as percents.

^a Incidence data used in calculating the rates are from the 17 SEER 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).

Incidence data used in calculating the trends and survival estimates are from the 9 SEER areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta).

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

^c The difference in rates between 1975-1977 and 1999-2005 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.

^f Sites were chosen based on more than 100 SEER incident cases between 2002-2006.

^g APCs suppressed because of inconsistent classification across ICD: ICD-8 (1975-1978), ICD-9 (1979-1998), ICD-10 (1999-2006).

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

The APC for 1991-2006 is significantly different from the APC for 1975-1990 ($p < .05$).

@ The APC for 1991-2006 is significantly different from the APC for 1975-1990 ($p < .10$).

- Statistic not shown. Age-adjusted 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. Survival rate based on less than 25 cases for the time interval.

Table 28.10
All Cancer Sites (Invasive)

Survival Rates^a
By Year of Diagnosis

All Races, Males and Females

Ages 0-14

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
Relative Survival Rates (SEER ^b)																			
1-year	81.4	85.0	87.2	89.5	91.0	91.1	88.6	90.6	90.5	92.9	91.2	91.0	91.3	92.4	92.0	91.7	94.1	92.8	92.5
2-year	71.2	75.8	78.3	81.8	82.6	84.1	82.2	84.7	84.8	86.3	84.8	84.2	85.3	85.8	86.9	87.4	89.2	88.3	
3-year	65.5	70.8	74.2	77.6	79.3	81.0	78.9	81.7	81.3	83.6	82.3	81.4	82.8	83.4	83.7	83.7	85.8		
4-year	62.1	67.6	71.8	75.3	76.6	78.7	78.1	79.0	78.8	80.6	80.4	78.7	81.0	81.5	82.0	82.0			
5-year	60.0	65.9	70.6	74.2	75.4	77.5	76.5	78.3	77.4	80.2	79.1	77.7	79.0	80.5	81.6				
6-year	58.3	64.8	69.6	73.5	74.8	76.2	76.0	78.1	76.3	79.5	78.3	76.2	78.5	79.3					
7-year	57.2	63.8	68.6	72.5	74.2	75.8	75.5	77.3	75.8	78.8	77.8	75.7	77.7						
8-year	56.5	63.1	68.0	72.1	73.4	75.6	74.9	77.1	74.9	78.3	76.7	75.3							
9-year	56.1	62.6	67.6	71.6	73.1	75.5	74.6	76.3	74.5	78.0	76.5								
10-year	55.8	62.1	67.2	71.2	72.9	75.4	74.6	76.0	74.4	77.7									
11-year	55.5	61.7	66.9	70.7	72.6	75.3	74.4	75.4	74.2										
12-year	55.1	61.2	66.6	70.6	72.4	75.2	74.4	74.7											
13-year	55.0	60.8	66.4	69.9	72.2	74.9	74.2												
14-year	54.6	60.6	66.0	69.7	72.0	74.5													
15-year	54.3	60.3	65.8	69.3	71.7														
16-year	54.0	60.0	65.5	68.8															
17-year	53.6	59.8	65.3																
18-year	53.3	59.4																	
19-year	53.1	59.2																	
20-year	52.9	59.0																	

^a

Survival rates are relative rates expressed as percents.

^b

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

Table 28.11
All Cancer Sites (Invasive)

Survival Rates^a
By Year of Diagnosis

All Races, Males and Females

Ages 0-19

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
Relative Survival Rates (SEER ^b)																			
1-year	83.1	86.3	88.7	90.6	91.4	90.4	89.8	90.8	90.3	93.2	91.6	92.1	91.2	91.2	92.3	92.5	94.1	92.5	92.8
2-year	73.2	77.5	80.4	83.1	83.6	83.5	82.9	84.3	84.9	87.4	85.1	85.3	85.7	84.1	87.2	87.6	89.1	87.9	
3-year	68.1	72.5	76.5	78.7	80.1	80.5	79.8	80.9	81.6	85.0	81.9	82.5	82.9	82.0	83.9	84.0	86.1		
4-year	64.9	69.5	73.9	76.4	77.9	78.2	78.4	78.8	79.9	82.1	80.3	79.8	81.0	80.2	82.1	82.0			
5-year	62.9	67.9	72.8	75.1	76.7	76.9	76.7	78.1	78.5	81.5	78.6	78.6	79.4	79.0	81.5				
6-year	61.2	66.5	71.9	74.2	75.9	75.7	76.2	77.6	77.4	80.9	77.7	77.4	78.9	78.1					
7-year	60.2	65.7	71.0	73.2	75.1	75.1	75.8	77.0	76.9	80.4	77.2	77.1	78.4						
8-year	59.5	64.9	70.4	72.6	74.5	75.0	75.1	76.7	76.0	79.8	76.5	76.7							
9-year	58.9	64.2	69.9	72.1	74.2	74.8	74.8	76.0	75.7	79.4	76.3								
10-year	58.6	63.8	69.5	71.9	73.8	74.8	74.7	75.6	75.5	79.1									
11-year	58.2	63.4	69.2	71.2	73.3	74.7	74.5	75.2	75.3										
12-year	57.9	63.0	68.9	71.1	73.0	74.6	74.4	74.7											
13-year	57.7	62.6	68.6	70.4	72.8	74.2	74.2												
14-year	57.4	62.3	68.1	70.1	72.7	74.0													
15-year	57.2	62.0	67.9	69.7	72.4														
16-year	56.8	61.6	67.5	69.3															
17-year	56.5	61.3	67.4																
18-year	56.2	61.1																	
19-year	56.0	60.8																	
20-year	55.7	60.6																	

^a

Survival rates are relative rates expressed as percents.

^b

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

Table 28.12
Childhood Cancer (Invasive, <20 Years old at diagnosis)

Estimated United States Cancer Prevalence Counts^a on January 1, 2006
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 <16 ^e	0 to <31 ^e	>=31 ^f	Complete ^g
<u>Race</u>	<u>Sex</u>										
All Races ^b	Both Sexes	60,231	50,458	45,228	38,245	32,402	28,377	163,805	259,480	+	+
	Males	32,416	26,270	23,395	19,937	16,074	13,113	86,544	133,367	+	+
	Females	27,815	24,188	21,833	18,308	16,328	15,264	77,261	126,113	+	+
White ^b	Both Sexes	50,388	42,539	38,148	33,001	28,466	25,200	137,833	221,693	+	+
	Males	27,315	22,085	19,840	17,296	14,280	11,739	73,153	114,499	+	+
	Females	23,073	20,454	18,308	15,705	14,186	13,461	64,680	107,194	+	+
Black ^b	Both Sexes	6,410	5,010	4,628	3,421	2,707	2,234	16,723	24,815	+	+
	Males	3,228	2,620	2,290	1,657	1,235	933	8,463	12,120	+	+
	Females	3,182	2,390	2,338	1,764	1,472	1,301	8,260	12,695	+	+
Asian/ Pacific Islander ^c	Both Sexes	2,112	1,691	1,436	+	+	+	5,520	+	+	+
	Males	1,160	927	709	+	+	+	2,948	+	+	+
	Females	952	764	727	+	+	+	2,572	+	+	+
Hispanic ^d	Both Sexes	10,378	7,526	5,973	+	+	+	24,938	+	+	+
	Males	5,704	3,922	3,231	+	+	+	13,501	+	+	+
	Females	4,674	3,604	2,742	+	+	+	11,437	+	+	+

^a US 2006 cancer prevalence counts are based on 2006 cancer prevalence proportions from the SEER registries and 1/1/2006 US population estimates based on the average of 2005 and 2006 population estimates from the US Bureau of the Census.

^{b c d} Prevalence was calculated using the First Malignant Primary Only for a person. 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: 31 years for 1975-2006 SEER 9 data; 16 years for 1990-2006 SEER 11 data (used to calculate prevalence for Hispanics and Asian Pacific Islanders).

^{f g} (f) Cases diagnosed more than 31 years ago were estimated using the completeness index method (Capocaccia et. al. 1997, Merrill et. al. 2000). (g) Complete prevalence is obtained by summing 0 to <31 and >=31.

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

+ Not available.

Table 28.13
Age-Adjusted Rates^a and Counts for the Top 5 Cancer Sites^b by Single Year of Age at Diagnosis
SEER Cancer Incidence^c 2002-2006

Age <1			Age 1			Age 2		
	Rate	Cases		Rate	Cases		Rate	Cases
All Sites	23.6	1,291	All Sites	21.9	1,185	All Sites	23.4	1,252
Leukemia	4.8	260	Leukemia	7.2	391	Leukemia	10.6	569
Acute Lymphocytic Leukemia	2.0	108	Acute Lymphocytic Leukemia	4.9	266	Acute Lymphocytic Leukemia	9.3	495
Soft Tissue	3.8	206	Brain and ONS ^d	4.2	225	Brain and ONS ^d	4.0	214
Brain and ONS ^d	3.6	199	Kidney and Renal Pelvis	2.0	108	Kidney and Renal Pelvis	2.2	118
Eye and Orbit	2.7	147	Eye and Orbit	1.7	93	Eye and Orbit	1.5	78
Other Endocrine	2.6	142	Soft Tissue	1.7	90	Other Endocrine	1.1	61
Age 3			Age 4			Age 5		
	Rate	Cases		Rate	Cases		Rate	Cases
All Sites	20.6	1,086	All Sites	17.4	909	All Sites	13.4	701
Leukemia	10.3	545	Leukemia	8.2	428	Leukemia	5.6	293
Acute Lymphocytic Leukemia	9.4	496	Acute Lymphocytic Leukemia	7.5	392	Acute Lymphocytic Leukemia	5.0	262
Brain and ONS ^d	4.1	217	Brain and ONS ^d	3.7	195	Brain and ONS ^d	3.6	190
Kidney and Renal Pelvis	1.9	99	Kidney and Renal Pelvis	1.3	66	Kidney and Renal Pelvis	0.9	46
Other Endocrine	1.0	51	Soft Tissue	0.9	46	Non-Hodgkin Lymphoma	0.8	43
Soft Tissue	0.9	48	Non-Hodgkin Lymphoma	0.8	43	Soft Tissue	0.6	32
Age 6			Age 7			Age 8		
	Rate	Cases		Rate	Cases		Rate	Cases
All Sites	11.7	610	All Sites	10.7	564	All Sites	10.0	535
Leukemia	4.3	225	Leukemia	3.8	202	Brain and ONS ^d	3.2	169
Acute Lymphocytic Leukemia	3.8	197	Acute Lymphocytic Leukemia	3.3	174	Leukemia	3.1	166
Brain and ONS ^d	3.4	180	Brain and ONS ^d	2.7	145	Acute Lymphocytic Leukemia	2.6	137
Non-Hodgkin Lymphoma	0.9	45	Non-Hodgkin Lymphoma	0.9	45	Non-Hodgkin Lymphoma	0.7	37
Soft Tissue	0.6	30	Bones and Joints	0.6	32	Bones and Joints	0.7	35
Kidney and Renal Pelvis	0.6	30	Soft Tissue	0.5	29	Hodgkin Lymphoma	0.5	27
Age 9			Age 10			Age 11		
	Rate	Cases		Rate	Cases		Rate	Cases
All Sites	9.9	539	All Sites	10.8	600	All Sites	11.8	666
Leukemia	3.0	162	Leukemia	2.9	160	Leukemia	3.2	182
Acute Lymphocytic Leukemia	2.1	115	Acute Lymphocytic Leukemia	2.1	115	Acute Lymphocytic Leukemia	2.5	142
Brain and ONS ^d	2.5	139	Brain and ONS ^d	2.2	124	Brain and ONS ^d	2.5	138
Non-Hodgkin Lymphoma	0.9	51	Non-Hodgkin Lymphoma	1.2	65	Bones and Joints	1.2	65
Bones and Joints	0.7	40	Bones and Joints	1.0	53	Non-Hodgkin Lymphoma	1.0	57
Hodgkin Lymphoma	0.7	36	Soft Tissue	0.7	40	Hodgkin Lymphoma	0.9	51

^a Rates are per 100,000 per year. Cases are for the 17 SEER Areas over the time period 2002-2006.

^b Top 5 cancer sites were determined based on the 2002-2006 age-specific rate.

^c Cases are from the 17 SEER 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).

^d ONS = Other Nervous System. IBD = Intrahepatic Bile Duct.

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

Table 28.13 - continued
Age-Adjusted Rates^a and Counts for the Top 5 Cancer Sites^b by Single Year of Age at Diagnosis

SEER Cancer Incidence^c 2002-2006

Age 12			Age 13			Age 14		
	Rate	Cases		Rate	Cases		Rate	Cases
All Sites	13.0	738	All Sites	14.1	804	All Sites	15.3	865
Leukemia	3.3	186	Brain and ONS ^d	2.9	163	Leukemia	3.2	182
Acute Lymphocytic Leukemia	2.1	119	Leukemia	2.7	155	Acute Lymphocytic Leukemia	2.1	121
Brain and ONS ^d	2.7	152	Acute Lymphocytic Leukemia	1.9	106	Brain and ONS ^d	2.4	136
Bones and Joints	1.4	82	Bones and Joints	1.6	90	Hodgkin Lymphoma	2.0	111
Non-Hodgkin Lymphoma	1.1	65	Hodgkin Lymphoma	1.5	84	Bones and Joints	1.5	87
Hodgkin Lymphoma	0.9	52	Non-Hodgkin Lymphoma	1.3	73	Non-Hodgkin Lymphoma	1.4	80
Age 15			Age 16			Age 17		
	Rate	Cases		Rate	Cases		Rate	Cases
All Sites	18.2	1,021	All Sites	19.1	1,051	All Sites	21.4	1,165
Leukemia	3.2	177	Leukemia	3.2	179	Leukemia	3.0	165
Acute Lymphocytic Leukemia	2.1	118	Acute Lymphocytic Leukemia	1.9	107	Acute Lymphocytic Leukemia	1.7	91
Hodgkin Lymphoma	2.3	131	Brain and ONS ^d	2.4	134	Hodgkin Lymphoma	2.6	142
Brain and ONS ^d	2.2	125	Hodgkin Lymphoma	2.4	134	Brain and ONS ^d	2.3	123
Bones and Joints	2.0	110	Bones and Joints	1.8	102	Non-Hodgkin Lymphoma	2.0	111
Non-Hodgkin Lymphoma	1.7	96	Non-Hodgkin Lymphoma	1.7	91	Testis	1.9	104
Age 18			Age 19					
	Rate	Cases		Rate	Cases			
All Sites	22.1	1,200	All Sites	25.4	1,344			
Hodgkin Lymphoma	3.3	177	Hodgkin Lymphoma	3.9	208			
Leukemia	2.9	158	Testis	3.1	164			
Acute Lymphocytic Leukemia	1.5	83	Leukemia	3.0	159			
Testis	2.4	133	Acute Lymphocytic Leukemia	1.4	76			
Melanoma of the Skin	2.2	120	Melanoma of the Skin	2.5	130			
Thyroid	2.1	115	Thyroid	2.3	122			

^a Rates are per 100,000 per year. Cases are for the 17 SEER Areas over the time period 2002-2006.

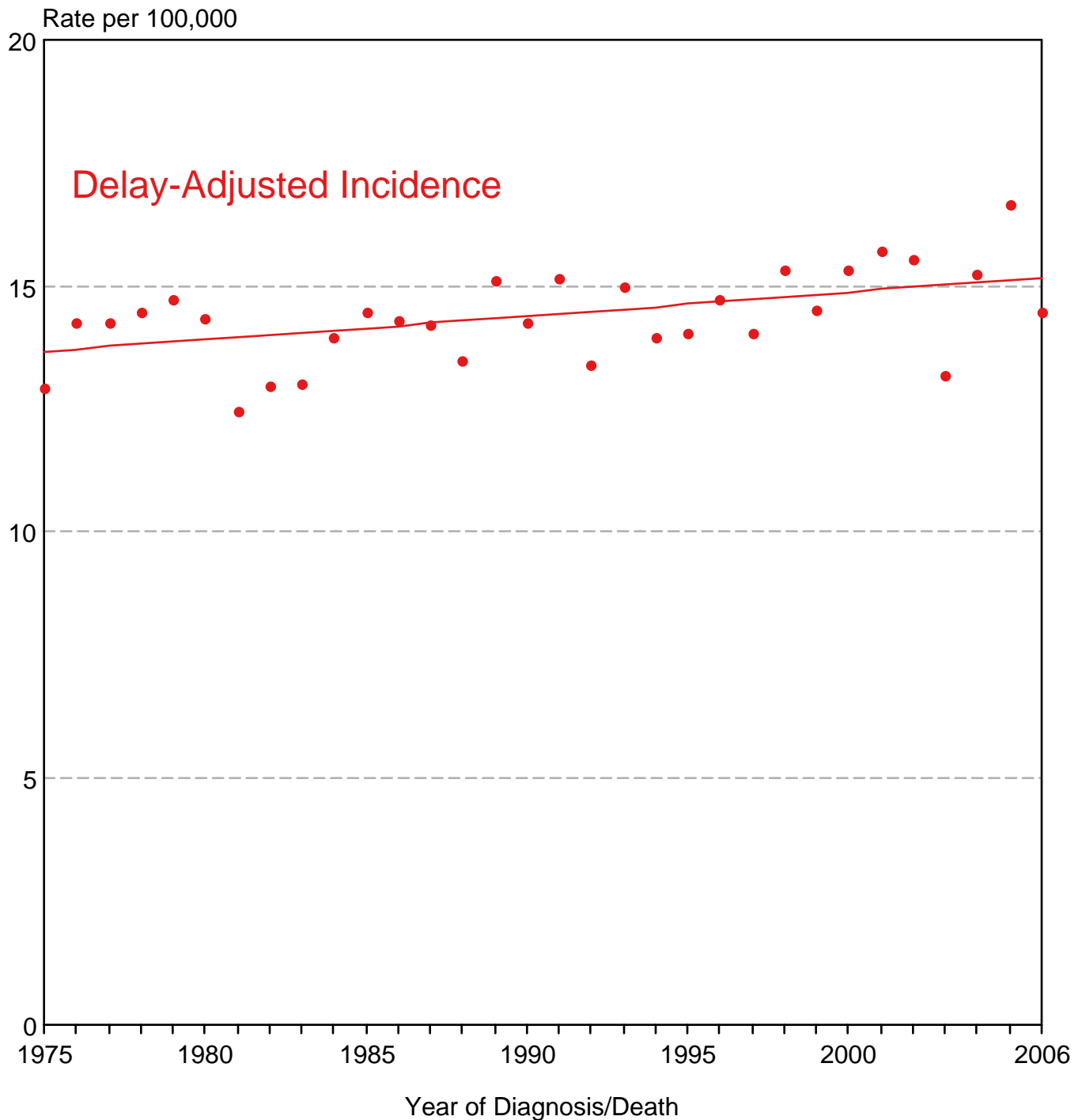
^b Top 5 cancer sites were determined based on the 2002-2006 age-specific rate.

^c Cases are from the 17 SEER 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).

^d ONS = Other Nervous System. IBD = Intrahepatic Bile Duct.

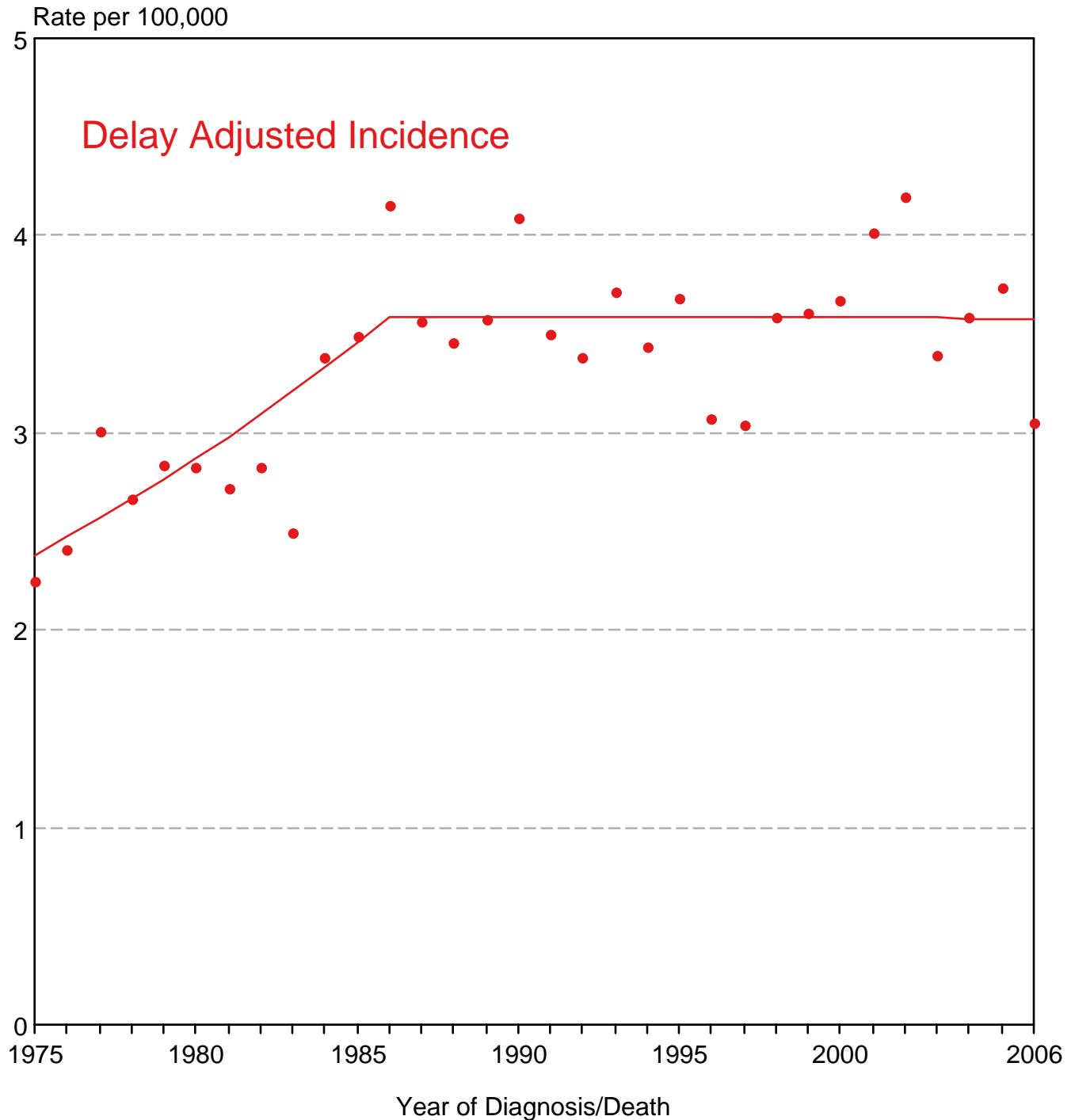
- Statistic not shown. Rate based on less than 16 cases for the time interval.

SEER Delay-Adjusted Incidence and US Mortality All Childhood Cancers, Under 20 Years of Age Both Sexes, All Races, 1975-2006



Source: SEER 9 areas and US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention. 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 3.3.1, April 2008, National Cancer Institute.

SEER Delay-Adjusted Incidence and US Mortality Brain and CNS, Under 15 Years of Age Both Sexes, All Races, 1975-2006



Source: SEER 9 areas and US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention. 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 3.3.1, April 2008, National Cancer Institute.

SEER Incidence and US Death Rates^a All Cancer Sites, Ages <20, Both Sexes

Joinpoint Analyses for Whites and Blacks from 1975-2006 and for Asian/Pacific Islanders, American Indians/Alaska Natives and Hispanics from 1992-2006

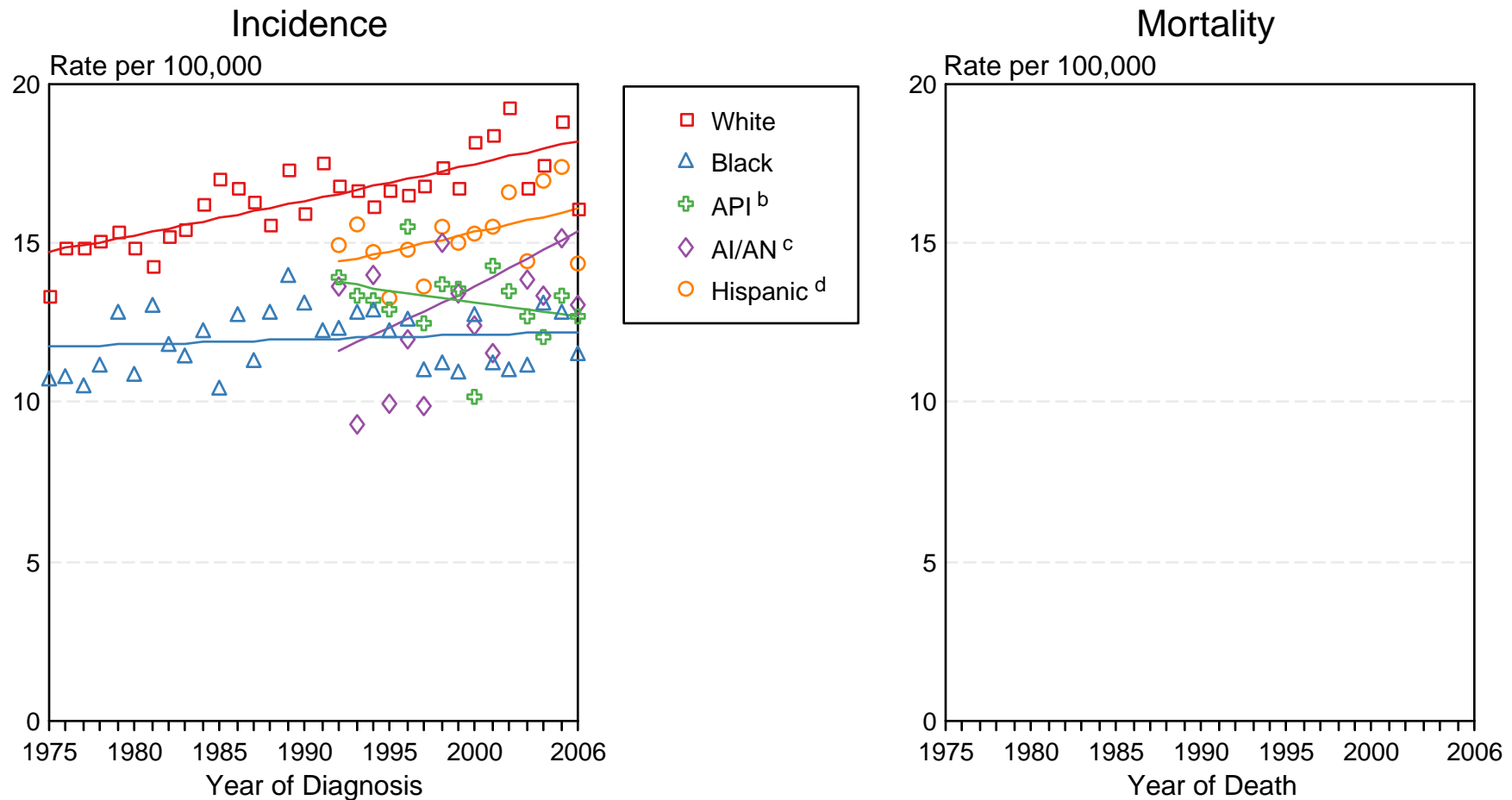


Figure 28.3

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 3.3.1, April 2008, National Cancer Institute. Joinpoint analyses for Whites and Blacks during the 1975-2006 period allow a maximum of 4 joinpoints. Analyses for other ethnic groups during the period 1992-2006 allow a maximum of 2 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, Maine, Maryland, Minnesota, New Hampshire, New York, North Dakota, Oklahoma, and Vermont.