

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+) are not included.

Childhood cancer is better categorized by groupings based on histologic type and site rather than primary site alone (see section 29 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, 2006-2010

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	15.8	16.9	14.8	2.2	2.3	2.1	17.2	18.2	16.1	2.4	2.6	2.2
Whites	16.9	18.0	15.7	2.3	2.4	2.2	18.4	19.6	17.2	2.5	2.7	2.2
Blacks	12.3	12.9	11.7	2.1	2.1	2.1	12.8	13.4	12.2	2.3	2.4	2.2
Bone & Joint	0.7	0.8	0.7	0.1	0.1	0.1	0.9	1.0	0.7	0.2	0.2	0.2
Brain & Other nervous	3.4	3.5	3.3	0.7	0.7	0.7	3.1	3.2	2.9	0.6	0.7	0.6
Hodgkin lymphoma	0.6	0.7	0.5	0.0	-	-	1.3	1.3	1.2	0.0	0.0	0.0
Kidney & Renal pelvis	0.8	0.8	0.9	0.1	0.1	0.1	0.7	0.6	0.7	0.1	0.1	0.1
Leukemia	5.1	5.6	4.7	0.7	0.7	0.6	4.6	5.1	4.2	0.7	0.8	0.6
Acute lymphocytic	4.1	4.5	3.7	0.3	0.3	0.3	3.5	3.9	3.1	0.3	0.4	0.3
Non-Hodgkin lymphoma	1.0	1.3	0.6	0.1	0.1	0.0	1.2	1.5	0.8	0.1	0.1	0.1
Soft tissue	1.0	1.1	1.0	0.1	0.1	0.1	1.1	1.1	1.0	0.2	0.2	0.2

^a Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).
SEER 18 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, New Jersey and Georgia excluding ATL/RG).

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

- 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, 1975-2010

By Primary Cancer Site

All Races, Males and Females

Year of Diagnosis

Age/Site	1975	1980	1985	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<u>Ages 0-14</u>																				
All Sites																				
All Races	11.5	12.9	14.5	14.3	14.1	14.8	14.1	15.3	14.5	15.4	15.7	15.5	13.2	15.2	16.6	14.5	14.7	15.8	16.0	16.4
Whites	12.1	13.2	15.6	14.4	14.9	15.0	14.7	16.3	15.7	16.7	17.0	16.9	14.0	16.1	17.6	15.2	15.4	16.2	16.8	17.0
Blacks	8.6	11.1	10.1	12.3	11.7	11.6	11.2	9.9	10.3	11.8	10.9	11.6	10.1	13.3	13.0	11.5	11.8	15.3	13.1	13.2
Bone & Joint	0.5	0.7	0.8	0.7	0.8	0.5	0.9	0.6	0.6	0.6	0.6	0.7	0.5	0.6	0.6	0.6	0.6	0.7	1.0	0.7
Brain & Other nervous	2.3	2.8	3.0	3.5	3.4	3.1	2.8	3.2	3.5	3.4	3.9	3.8	3.0	3.3	3.3	3.1	3.4	3.5	3.8	3.9
Hodgkin lymphoma	0.7	0.5	0.7	0.7	-	0.6	0.6	0.6	0.4	0.6	0.5	0.5	0.4	0.5	0.5	0.6	0.6	0.7	0.6	0.5
Kidney & Renal pelvis	0.7	0.8	0.9	0.8	0.6	1.0	1.0	1.1	0.7	1.0	0.9	0.9	0.7	0.7	0.9	0.6	0.7	1.0	0.8	0.9
Leukemia	3.3	4.0	4.6	4.5	4.4	4.6	4.3	4.8	4.7	4.6	4.4	4.8	4.1	5.0	5.4	4.6	4.2	4.8	4.8	4.9
Acute lymphocytic	2.2	3.1	3.5	3.5	3.6	3.6	3.5	3.9	3.6	3.5	3.5	4.0	3.2	3.8	4.1	3.5	3.6	3.7	3.8	3.8
Non-Hodgkin lymphoma	1.0	0.7	0.7	0.8	0.9	0.6	0.9	0.9	0.8	1.0	1.0	1.0	0.9	0.8	1.1	0.9	1.0	1.1	1.1	1.4
Soft tissue	0.9	0.9	0.9	0.7	1.0	1.1	1.0	1.1	0.9	1.0	1.2	1.0	0.8	1.0	1.5	0.9	1.1	0.9	1.0	1.0
<u>Ages 0-19</u>																				
All Sites																				
All Races	13.0	14.4	15.9	15.7	15.8	16.2	15.7	16.3	15.7	16.9	17.1	17.5	15.7	16.4	17.8	15.7	16.9	17.6	17.6	17.4
Whites	13.4	14.9	17.1	16.0	16.7	16.6	16.8	17.5	16.8	18.3	18.5	19.4	16.8	17.8	19.2	16.6	18.2	18.4	19.0	18.1
Blacks	10.8	10.9	10.5	13.2	12.4	12.6	11.1	11.2	11.0	12.7	11.5	11.4	11.5	13.2	13.0	12.3	12.7	15.1	12.9	14.1
Bone & Joint	0.7	0.9	1.0	0.8	0.9	0.7	1.2	0.8	0.7	0.8	0.9	1.0	0.8	0.7	0.9	0.9	0.8	1.0	1.1	0.8
Brain & Other nervous	2.1	2.5	2.7	3.2	3.0	3.0	2.6	2.8	3.0	3.1	3.4	3.4	2.9	3.0	3.0	2.8	3.0	3.2	3.3	3.4
Hodgkin lymphoma	1.5	1.2	1.4	1.3	0.9	1.4	1.3	1.4	1.1	1.2	1.1	1.2	1.0	1.1	0.9	1.1	1.4	1.4	1.3	1.3
Kidney & Renal pelvis	0.5	0.6	0.7	0.6	0.5	0.7	0.8	0.8	0.6	0.8	0.7	0.7	0.6	0.6	0.8	0.5	0.6	0.9	0.7	0.7
Leukemia	3.0	3.5	4.0	3.9	3.9	4.0	3.7	4.1	4.1	4.1	4.0	4.5	3.8	4.4	4.7	4.1	4.1	4.3	4.1	4.2
Acute lymphocytic	1.9	2.5	2.9	2.9	3.1	2.9	2.9	3.3	3.0	3.1	2.9	3.5	2.8	3.3	3.4	3.0	3.2	3.1	3.1	3.1
Non-Hodgkin lymphoma	1.0	0.8	1.0	1.0	1.1	1.0	1.1	1.0	0.9	1.3	1.1	1.2	1.3	1.1	1.3	1.2	1.2	1.3	1.4	1.5
Soft tissue	0.8	0.9	0.9	0.8	1.1	1.1	1.0	1.1	1.0	1.2	1.1	1.0	0.8	1.0	1.5	1.0	1.1	0.9	1.0	0.9

^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 28.3

Age-Adjusted Cancer U.S. Death Rates^a, 1975-2010

By Primary Cancer Site

All Races, Males and Females

Year of Death

Age/Site	1975	1980	1985	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<u>Ages 0-14</u>																				
All Sites	4.9	4.3	3.6	3.1	2.7	2.6	2.6	2.4	2.5	2.5	2.5	2.6	2.5	2.5	2.4	2.2	2.3	2.2	2.2	2.2
Bone & Joint	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Brain & Other nervous	1.0	0.9	0.8	0.9	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Hodgkin lymphoma	0.0	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kidney & Renal pelvis	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Leukemia	2.1	1.7	1.4	1.1	1.0	0.9	0.9	0.8	0.8	0.8	0.8	0.7	0.8	0.8	0.7	0.7	0.7	0.7	0.6	0.6
Acute lymphocytic	1.2	0.9	0.8	0.5	0.5	0.4	0.4	0.4	0.3	0.4	0.3	0.4	0.4	0.3	0.3	0.3	0.4	0.3	0.3	0.3
Non-Hodgkin lymphoma	0.4	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Soft tissue	0.1	0.2	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1
<u>Ages 0-19</u>																				
All Sites	5.1	4.6	3.8	3.4	3.0	2.9	2.9	2.7	2.8	2.8	2.8	2.8	2.7	2.7	2.7	2.5	2.5	2.4	2.3	2.3
Bone & Joint	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2
Brain & Other nervous	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6
Hodgkin lymphoma	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	-
Kidney & Renal pelvis	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Leukemia	2.0	1.8	1.4	1.2	1.0	0.9	1.0	0.8	0.8	0.9	0.9	0.8	0.8	0.8	0.8	0.7	0.8	0.7	0.7	0.7
Acute lymphocytic	1.0	0.9	0.7	0.6	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.3	0.3	0.3
Non-Hodgkin lymphoma	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Soft tissue	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2

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

Table 28.4

Age-Adjusted Cancer U.S. Death Rates^a, 1975-2010

By Primary Cancer Site

Whites, Males and Females

Year of Death

Age/Site	1975	1980	1985	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<u>Ages 0-14</u>																				
All Sites	5.0	4.4	3.7	3.2	2.7	2.7	2.7	2.5	2.5	2.6	2.5	2.6	2.6	2.5	2.5	2.3	2.4	2.3	2.2	2.2
Bone & Joint	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Brain & Other nervous	1.0	0.9	0.9	0.9	0.7	0.8	0.8	0.7	0.7	0.8	0.7	0.8	0.8	0.8	0.7	0.7	0.8	0.8	0.7	0.7
Hodgkin lymphoma	0.0	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kidney & Renal pelvis	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Leukemia	2.3	1.8	1.4	1.1	1.0	0.9	0.9	0.8	0.8	0.9	0.8	0.8	0.9	0.8	0.7	0.7	0.8	0.7	0.7	0.7
Acute lymphocytic	1.2	1.0	0.8	0.5	0.5	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.5	0.4	0.3	0.3	0.4	0.3	0.3	0.3
Non-Hodgkin lymphoma	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Soft tissue	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.1
<u>Ages 0-19</u>																				
All Sites	5.3	4.7	3.9	3.5	2.9	2.9	2.9	2.8	2.8	2.9	2.8	2.8	2.8	2.8	2.7	2.5	2.6	2.5	2.4	2.3
Bone & Joint	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2
Brain & Other nervous	0.9	0.8	0.8	0.8	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.6
Hodgkin lymphoma	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-	0.0	-
Kidney & Renal pelvis	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1
Leukemia	2.1	1.8	1.4	1.2	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.7	0.7	0.7
Acute lymphocytic	1.1	1.0	0.7	0.6	0.5	0.4	0.5	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3
Non-Hodgkin lymphoma	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Soft tissue	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2

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

Table 28.5

Age-Adjusted Cancer U.S. Death Rates^a, 1975-2010

By Primary Cancer Site

Blacks, Males and Females

Year of Death

Age/Site	1975	1980	1985	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<u>Ages 0-14</u>																				
All Sites	4.5	3.8	3.3	3.0	2.9	2.5	2.5	2.4	2.5	2.3	2.3	2.6	2.4	2.4	2.5	2.2	2.1	2.2	2.0	2.0
Bone & Joint	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-
Brain & Other nervous	0.9	0.9	0.6	0.7	0.8	0.7	0.6	0.7	0.7	0.7	0.5	0.8	0.7	0.7	0.7	0.7	0.5	0.6	0.6	0.6
Hodgkin lymphoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kidney & Renal pelvis	-	-	0.2	-	-	-	0.2	-	-	-	0.2	-	-	-	-	-	-	-	-	-
Leukemia	1.6	1.2	1.2	0.9	1.0	0.8	0.7	0.7	0.7	0.5	0.8	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5
Acute lymphocytic	0.8	0.6	0.7	0.5	0.4	0.4	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-
Non-Hodgkin lymphoma	0.4	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soft tissue	-	-	-	0.3	-	-	0.2	0.2	0.2	-	0.2	0.2	-	0.2	-	-	-	0.2	0.2	-
<u>Ages 0-19</u>																				
All Sites	4.8	4.2	3.5	3.4	3.1	2.9	2.9	2.6	3.0	2.8	2.6	2.8	2.5	2.8	2.6	2.4	2.3	2.4	2.3	2.2
Bone & Joint	0.4	0.3	0.2	0.2	0.2	0.2	0.1	0.3	0.2	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.2	0.2
Brain & Other nervous	0.9	0.8	0.6	0.7	0.7	0.7	0.6	0.6	0.7	0.7	0.5	0.8	0.6	0.6	0.6	0.6	0.5	0.5	0.6	0.6
Hodgkin lymphoma	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Kidney & Renal pelvis	0.2	-	0.2	-	-	-	0.1	0.1	-	0.1	0.2	-	-	-	-	-	-	-	-	0.1
Leukemia	1.6	1.4	1.1	1.0	1.1	0.8	0.8	0.7	0.8	0.8	0.8	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.5	0.5
Acute lymphocytic	0.7	0.6	0.6	0.5	0.5	0.4	0.3	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Non-Hodgkin lymphoma	0.4	0.3	0.2	0.2	0.2	0.1	0.2	-	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.1	-	-	0.1	0.1
Soft tissue	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2

^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 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,
1975-2010 With up to Five Joinpoints By Primary Cancer Site And Age At Diagnosis
Males and Females

	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	2006-10
<u>Ages 0-14</u>													
All Sites													
All Races	1975-10	0.6*											0.6*
White	1975-10	0.7*											0.7*
Black	1975-10	0.6*											0.6*
Bone & Joint	1975-10	0.3											0.3
Brain & Other nervous system	1975-77	15.5	1977-83	-3.1	1983-86	10.5	1986-10	0.3					0.3
Hodgkin lymphoma	1975-10	-0.8*											-0.8*
Kidney & Renal pelvis	1975-10	-0.1											-0.1
Leukemia	1975-10	0.7*											0.7*
Acute lymphocytic leukemia	1975-10	0.8*											0.8*
Non-Hodgkin lymphoma	1975-10	0.8*											0.8*
Soft tissue	1975-10	1.1*											1.1*
<u>Ages 0-19</u>													
All Sites													
All Races	1975-10	0.6*											0.6*
White	1975-10	0.7*											0.7*
Black	1975-94	0.9*	1994-98	-4.1	1998-10	2.0*							2.0*
Bone & Joint	1975-10	0.2											0.2
Brain & Other nervous system	1975-77	14.5	1977-83	-3.2	1983-86	10.5	1986-10	0.1					0.1
Hodgkin lymphoma	1975-10	-0.7*											-0.7*
Kidney & Renal pelvis	1975-10	0.0											0.0
Leukemia	1975-10	0.7*											0.7*
Acute lymphocytic leukemia	1975-10	0.8*											0.8*
Non-Hodgkin lymphoma	1975-10	1.1*											1.1*
Soft tissue	1975-10	1.0*											1.0*

Joinpoint Regression Program Version 4.0.3, April 2013, 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 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 28.7

Trends in U.S. Mortality^a Using the Joinpoint Regression Program,
1975-2010 With up to Five Joinpoints By Primary Cancer Site and Age at Death
All Races, Both Sexes

	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	2006-10
<u>Ages 0-14</u>													
All Sites	1975-98	-2.9*	1998-03	0.2	2003-10	-2.4*							-2.4*
Bone & Joint	1975-89	-3.5*	1989-10	-0.4									-0.4
Brain & Other nervous system	1975-10	-1.0*											-1.0*
Hodgkin lymphoma	1975-10	-4.8*											-4.8*
Kidney & Renal pelvis	1975-92	-3.9*	1992-10	-1.3*									-1.3*
Leukemia	1975-98	-4.0*	1998-10	-2.0*									-2.0*
Acute lymphocytic leukemia	1975-93	-5.3*	1993-10	-2.9*									-2.9*
Non-Hodgkin lymphoma	1975-10	-5.0*											-5.0*
Soft tissue	1975-77	23.6	1977-10	-1.3*									-1.3*
<u>Ages 0-19</u>													
All Sites	1975-98	-2.7*	1998-02	0.3	2002-10	-2.4*							-2.4*
Bone & Joint	1975-89	-3.1*	1989-10	-0.3									-0.3
Brain & Other nervous system	1975-10	-1.1*											-1.1*
Hodgkin lymphoma	1975-10	-4.9*											-4.9*
Kidney & Renal pelvis	1975-92	-3.6*	1992-10	-1.2*									-1.2*
Leukemia	1975-89	-3.9*	1989-92	-0.8	1992-98	-5.0*	1998-01	1.1	2001-10	-3.2*			-3.2*
Acute lymphocytic leukemia	1975-82	-3.0*	1982-88	-6.4*	1988-10	-3.1*							-3.1*
Non-Hodgkin lymphoma	1975-10	-4.1*											-4.1*
Soft tissue	1975-79	8.9*	1979-10	-1.0*									-1.0*

Joinpoint Regression Program Version 4.0.3, April 2013, 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 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 over the time range of 1975-2010.
 * The APC/AAPC is significantly different from zero ($p < .05$).
 - Joinpoint regression line analysis could not be performed on data series.

a
b
*
-

Table 28.7 - continued

Trends in U.S. Mortality^a Using the Joinpoint Regression Program,
1975-2010 With up to Five Joinpoints By Primary Cancer Site and Age at Death
White, Both Sexes

	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	2006-10
<u>Ages 0-14</u>													
All Sites	1975-96	-3.0*	1996-10	-1.2*									-1.2*
Bone & Joint	1975-89	-3.1*	1989-10	-0.5									-0.5
Brain & Other nervous system	1975-10	-0.9*											-0.9*
Hodgkin lymphoma	-	-											-
Kidney & Renal pelvis	1975-10	-2.6*											-2.6*
Leukemia	1975-90	-4.5*	1990-10	-2.8*									-2.8*
Acute lymphocytic leukemia	1975-91	-5.5*	1991-10	-2.8*									-2.8*
Non-Hodgkin lymphoma	1975-10	-5.0*											-5.0*
Soft tissue	1975-79	12.7*	1979-95	-2.8*	1995-10	0.5							0.5
<u>Ages 0-19</u>													
All Sites	1975-98	-2.7*	1998-03	0.3	2003-10	-2.7*							-2.7*
Bone & Joint	1975-89	-2.7*	1989-10	-0.3									-0.3
Brain & Other nervous system	1975-10	-1.0*											-1.0*
Hodgkin lymphoma	1975-10	-4.9*											-4.9*
Kidney & Renal pelvis	1975-10	-2.4*											-2.4*
Leukemia	1975-88	-4.1*	1988-10	-2.7*									-2.7*
Acute lymphocytic leukemia	1975-82	-3.3*	1982-88	-6.6*	1988-10	-2.8*							-2.8*
Non-Hodgkin lymphoma	1975-10	-4.2*											-4.2*
Soft tissue	1975-79	11.5*	1979-96	-1.6*	1996-10	0.1							0.1

Joinpoint Regression Program Version 4.0.3, April 2013, 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 US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.

^b The AAPC is the Average Annual Percent Change and is based on the APCs calculated by Joinpoint over the time range of 1975-2010.

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

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

Table 28.7 - continued

Trends in U.S. Mortality^a Using the Joinpoint Regression Program,
1975-2010 With up to Five Joinpoints By Primary Cancer Site and Age at Death
Black, Both Sexes

	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	2006-10
<u>Ages 0-14</u>													
All Sites	1975-96	-2.6*	1996-10	-1.4*									-1.4*
Bone & Joint	1975-81	-10.3*	1981-10	-0.7									-0.7
Brain & Other nervous system	1975-10	-1.2*											-1.2*
Hodgkin lymphoma	-	-											-
Kidney & Renal pelvis	1975-10	-2.7*											-2.7*
Leukemia	1975-10	-3.2*											-3.2*
Acute lymphocytic leukemia	1975-10	-4.8*											-4.8*
Non-Hodgkin lymphoma	1975-10	-4.5*											-4.5*
Soft tissue	1975-10	-1.3*											-1.3*
<u>Ages 0-19</u>													
All Sites	1975-10	-2.1*											-2.1*
Bone & Joint	1975-84	-6.6*	1984-10	-0.4									-0.4
Brain & Other nervous system	1975-10	-1.2*											-1.2*
Hodgkin lymphoma	-	-											-
Kidney & Renal pelvis	1975-10	-2.4*											-2.4*
Leukemia	1975-10	-2.8*											-2.8*
Acute lymphocytic leukemia	1975-82	0.1	1982-10	-4.8*									-4.8*
Non-Hodgkin lymphoma	1975-10	-3.4*											-3.4*
Soft tissue	1975-10	-1.0*											-1.0*

Joinpoint Regression Program Version 4.0.3, April 2013, 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 US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.

^b The AAPC is the Average Annual Percent Change and is based on the APCs calculated by Joinpoint over the time range of 1975-2010.

* 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 (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	1999-2002	2003-2009
All Sites										
All Races	57.9	62.4	67.0	68.0	71.6	75.8	77.4	79.1	80.7	83.1 ^c
Whites	57.8	63.0	67.7	69.8	72.4	76.8	78.2	80.5	81.8	84.5 ^c
Blacks	57.3	57.7	62.2	56.7	65.3	71.1	73.0	75.2	72.8	77.5 ^c
Bone & Joint	49.9 ^d	47.8	56.8 ^d	57.3 ^d	66.8 ^d	67.4	74.1	70.3	71.6	78.6 ^c
Brain & ONS	56.9	57.7	56.6	61.7	64.2	64.6	70.6	75.1	73.6	75.1 ^c
Hodgkin lymphoma	80.7	86.8	88.1	89.9	87.1	96.8	94.6	96.1	94.8	98.1 ^c
Leukemia	49.7	58.0	62.9	63.6	71.1	75.5	75.9	80.2	83.3	86.7 ^c
Acute lymphocytic	57.2	65.7	71.3	72.2	77.8	83.1	83.8	86.9	88.9	91.7 ^c
Acute myeloid	18.8	25.8	26.7 ^d	30.5 ^d	37.1 ^d	42.1	40.6 ^d	48.6	58.1	64.8 ^c
Neuroblastoma ^a	52.5	56.6	54.5	52.3	62.9	76.5	66.8	65.9	71.5	76.0 ^c
Non-Hodgkin lymphoma	43.2	52.7	66.9	69.5	70.7	76.9	80.7	83.2	88.3	85.1 ^c
Soft tissue	61.3	74.0	69.2	72.9	66.4	79.8	76.7	70.5	78.4	79.6 ^c
Wilms' tumor ^b	73.1	79.0	86.7	90.7	92.1	91.9	91.7	91.6	93.6	90.1 ^c

Site	Ages 0-19									
	1975-1977	1978-1980	1981-1983	1984-1986	1987-1989	1990-1992	1993-1995	1996-1998	1999-2002	2003-2009
All Sites										
All Races	61.5	65.1	68.3	70.4	73.5	76.3	77.7	79.7	80.3	83.6 ^c
Whites	61.3	65.8	69.2	72.3	75.0	77.6	78.5	81.0	81.4	84.9 ^c
Blacks	59.5	60.0	62.5	58.4	64.4	68.7	74.0	73.6	73.8	76.9 ^c
Bone & Joint	50.4	48.1	51.2	56.0	63.9	68.8	68.9	67.0	68.3	73.9 ^c
Brain & ONS	58.9	58.1	58.3	63.8	65.9	66.5	71.4	75.9	74.2	75.1 ^c
Hodgkin lymphoma	86.1	88.3	85.5	90.6	88.6	94.2	93.9	95.2	95.5	97.4 ^c
Leukemia	44.9	53.2	58.0	60.3	67.6	71.3	71.8	76.5	77.9	84.6 ^c
Acute lymphocytic	53.8	61.9	67.1	69.9	75.0	79.8	81.4	84.3	84.7	90.0 ^c
Acute myeloid	18.7	26.2	26.4	31.4	37.6	41.9	38.6	46.2	52.8	63.9 ^c
Neuroblastoma ^a	53.0	56.7	53.4	52.5	61.5	76.2	66.8	66.1	71.1	76.4 ^c
Non-Hodgkin lymphoma	44.6	53.4	63.8	67.4	70.4	72.7	77.9	81.0	84.1	84.5 ^c
Soft tissue	64.8	68.7	68.4	72.6	68.0	69.7	73.7	72.2	73.9	76.1 ^c
Wilms' tumor ^b	72.6	78.3	86.8	91.0	92.1	91.3	91.7	91.7	93.6	89.8 ^c

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

Based on follow-up of patients into 2010.

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 between 1975-1977 and 2003-2009 is statistically significant ($p < .05$).

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

^e 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 28.9

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

Age/Site	SEER Incidence ^a					US Mortality ^b					5-year Relative Survival ^a	
	2006-2010 Num Cases	2006-2010 Rate	1975-2010 APC	1975-1992 APC	1993-2010 APC	2006-2010 Num Deaths	2006-2010 Rate	1975-2010 APC	1975-1992 APC	1993-2010 APC	1975-1977	2003-2009
<u>Ages 0-4</u>												
All Sites	6,376	22.0	0.8*	1.1*	0.5	2,185	2.2	-2.6*	-3.0*	-2.0*#	57.2	83.8 ^c
Soft tissue	457	1.6	1.0*	0.8	2.0	115	0.1	-1.9*	-1.5	-1.5	62.0 ^d	83.8 ^c
Kidney and Renal pelvis	552	1.9	-0.2	-0.2	-1.6	64	0.1	-3.6*	-6.3*	-3.1*#	71.9	88.6 ^c
Eye and Orbit	390	1.3	0.2	1.2	-1.7 [#]	-	-	-	-	-	87.2 ^d	96.9 ^c
Brain and Other nervous	1,206	4.2	1.3*	2.8*	1.2*#	581	0.6	-1.4*	-1.3*	-2.1*	52.0	74.3 ^c
Other endocrine ^g	421	1.5	-	-	-	355	0.4	-	-	-	35.7 ^d	73.8 ^c
Leukemia	2,387	8.2	0.8*	0.8	0.7	714	0.7	-2.9*	-3.7*	-1.9*#	55.4	87.5 ^c
Acute lymphocytic	1,942	6.7	0.8*	1.1*	0.7	241	0.2	-4.1*	-5.7*	-1.7*#	63.2	92.6 ^c
<u>Ages 5-9</u>												
All Sites	3,500	12.3	0.4*	0.8*	0.9*	2,312	2.3	-2.5*	-3.3*	-1.3*#	58.3	81.0 ^c
Brain and Other nervous	976	3.4	0.5*	1.3	0.8	882	0.9	-0.6*	-0.5	0.1	58.4	71.8 ^c
Leukemia	1,165	4.1	0.4	1.7*	0.4	571	0.6	-4.7*	-5.4*	-3.4*#	51.0	89.1 ^c
Acute lymphocytic	994	3.5	0.7*	1.9*	0.6	317	0.3	-5.3*	-6.4*	-3.1*#	54.8	94.3 ^c
<u>Ages 10-14</u>												
All Sites	4,021	13.4	0.7*	1.1*	0.5	2,256	2.2	-2.1*	-2.5*	-1.3*#	58.6	83.9 ^c
Bone and Joint	404	1.4	0.1	1.3	-0.1	238	0.2	-1.4*	-3.0*	-0.5 [#]	52.8 ^d	81.3 ^c
Brain and Other nervous	779	2.6	0.8*	1.8*	-0.5 [#]	626	0.6	-1.2*	-1.4*	-0.6	59.5	80.2 ^c
Hodgkin lymphoma	365	1.2	-0.8*	-0.7	-0.3	-	-	-	-	-	78.8	98.7 ^c
Leukemia	970	3.2	0.7*	1.6	1.5*	748	0.7	-2.9*	-3.1*	-2.6*	34.0	81.7 ^c
Acute lymphocytic	656	2.2	0.9*	2.6*	1.5*	342	0.3	-3.4*	-3.3*	-3.2*	43.0 ^d	85.6 ^c
<u>Ages 15-19</u>												
All Sites	6,609	21.1	0.5*	1.2*	0.6	3,278	3.0	-2.0*	-2.2*	-1.9*	67.9	84.5 ^c
Bone and Joint	433	1.4	0.1	0.8	-0.8	539	0.5	-1.1*	-2.7*	-0.5 [#]	51.0 ^d	68.1 ^c
Melanoma of the skin	356	1.1	1.0*	2.4*	0.4	36	0.0	-	-	-	76.2 ^d	96.6 ^c
Testis(males)	582	3.6	1.2*	2.1	1.3	29	0.1	-	-	-	66.0 ^d	95.9 ^c
Brain and Other nervous	642	2.1	0.2	2.1*	0.2 [@]	509	0.5	-1.3*	-1.1*	-1.6*	65.3	75.7 ^c
Thyroid	711	2.3	1.7*	1.1	3.2*	-	-	-	-	-	100.0	98.1
Hodgkin lymphoma	991	3.2	-0.7*	0.3	-0.3	71	0.1	-	-3.5*	-	89.0	97.1 ^c
Non-Hodgkin lymphoma	546	1.7	1.6*	2.7*	1.3	223	0.2	-2.9*	-2.2*	-3.4*	47.7 ^d	83.6 ^c
Leukemia	971	3.1	0.7*	0.6	0.7	940	0.9	-2.2*	-1.9*	-2.6*	23.8	73.9 ^c
Acute lymphocytic	556	1.8	1.1*	1.6	1.6	383	0.3	-2.3*	-1.3*	-2.6*#	30.0 ^d	78.2 ^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).

^a Incidence data used in calculating the rates are from the SEER 18 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, New Jersey and Georgia excluding ATL/RG).

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 between 1975-1977 and 2003-2009 is statistically significant (p<.05).

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

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

^f Sites were chosen based on more than 100 SEER incidence cases between 2006-2010.

^g APCs suppressed because of inconsistent classification across ICD: ICD-8 (1975-1978), ICD-9 (1979-1998), ICD-10 (1999-2008).

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

The APC for 1993-2010 is significantly different from the APC for 1975-1992 (p<.05).

@ The APC for 1993-2010 is significantly different from the APC for 1975-1992 (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)
SEER^a Relative Survival (Percent)
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	2006	2007	2008	2009
Survival Time																							
1-year	80.5	84.5	86.6	88.7	90.6	90.2	88.3	90.1	90.4	92.7	90.9	90.7	91.0	92.4	92.0	91.4	93.3	92.6	92.5	94.0	92.2	92.4	91.9
2-year	70.9	75.5	78.3	81.7	82.5	83.9	82.0	84.6	84.6	86.4	84.7	84.3	85.2	86.0	86.8	87.2	89.2	88.2	88.0	89.3	87.6	87.9	
3-year	65.2	70.7	74.3	77.7	79.2	81.1	79.0	81.4	81.0	83.5	82.3	81.5	82.7	83.2	83.9	83.8	86.1	85.3	85.0	87.7	85.9		
4-year	62.0	67.5	71.9	75.4	76.7	78.6	78.2	79.0	78.9	80.7	80.5	78.7	81.1	81.5	82.4	82.1	85.1	83.8	83.4	86.3			
5-year	59.8	65.8	70.6	74.3	75.6	77.6	76.5	78.4	77.3	80.3	79.2	77.9	79.2	80.6	81.7	81.1	84.0	82.9	82.1				
6-year	58.1	64.7	69.6	73.7	75.0	76.3	76.1	78.2	76.4	79.6	78.3	76.5	78.8	79.4	80.9	80.2	83.6	82.6					
7-year	57.1	63.8	68.7	72.7	74.3	75.9	75.6	77.4	75.9	79.0	77.9	76.0	78.0	78.8	79.8	79.7	83.0						
8-year	56.4	63.1	68.1	72.4	73.6	75.8	74.9	77.1	75.0	78.5	76.8	75.6	77.8	78.1	79.8	79.1							
9-year	56.0	62.6	67.7	71.7	73.2	75.6	74.7	76.3	74.6	78.2	76.6	75.0	77.2	78.1	79.3								
10-year	55.7	62.1	67.3	71.3	73.1	75.5	74.7	76.0	74.5	77.8	75.9	74.6	76.8	77.8									
11-year	55.4	61.8	67.0	70.9	72.8	75.4	74.5	75.4	74.3	77.7	75.7	74.0	76.4										
12-year	55.1	61.2	66.7	70.8	72.6	75.3	74.5	74.8	74.1	77.6	75.3	73.8											
13-year	54.8	60.9	66.5	70.2	72.5	75.1	74.3	74.5	74.0	77.5	75.1												
14-year	54.5	60.6	66.1	70.1	72.3	74.7	73.9	74.4	74.0	77.3													
15-year	54.2	60.4	66.0	69.7	71.9	74.4	73.9	74.2	73.8														
16-year	53.9	60.1	65.7	69.2	71.8	74.2	73.4	74.0															
17-year	53.5	59.9	65.5	68.7	71.6	74.0	73.3																
18-year	53.3	59.6	65.3	68.4	71.5	73.7																	
19-year	53.0	59.4	65.2	68.3	71.2																		
20-year	52.8	59.2	64.9	68.1																			

^a

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

Table 28.11
All Cancer Sites (Invasive)
SEER^a Relative Survival (Percent)
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	2006	2007	2008	2009
Survival Time																							
1-year	82.4	85.7	88.2	90.0	91.2	89.7	89.5	90.4	90.0	93.1	91.3	91.7	90.8	91.2	92.3	92.2	93.5	92.3	92.8	94.1	93.0	93.8	93.3
2-year	73.0	77.2	80.3	83.0	83.6	83.2	82.6	84.1	84.5	87.4	85.1	85.3	85.7	84.3	87.1	87.2	89.0	87.9	88.6	89.0	88.3	89.2	
3-year	67.9	72.4	76.5	78.7	80.0	80.4	79.8	80.7	81.2	85.0	81.9	82.4	82.9	81.9	84.1	84.0	86.1	84.6	86.2	87.3	86.4		
4-year	64.8	69.5	74.0	76.4	78.0	78.2	78.4	78.9	79.8	82.2	80.4	79.8	81.1	80.3	82.3	82.0	85.1	83.4	84.5	85.6			
5-year	62.8	67.8	72.8	75.1	76.8	77.0	76.7	78.2	78.3	81.6	78.7	78.8	79.6	79.2	81.6	80.9	84.0	82.3	83.3				
6-year	61.1	66.4	71.9	74.3	76.0	75.7	76.3	77.8	77.4	81.1	77.6	77.6	79.2	78.3	81.0	79.9	83.6	82.0					
7-year	60.2	65.7	71.0	73.2	75.3	75.2	75.9	77.2	76.9	80.6	77.4	77.3	78.7	77.6	79.9	79.6	82.9						
8-year	59.5	64.9	70.4	72.7	74.7	75.1	75.2	76.8	75.9	80.0	76.6	76.9	78.4	77.0	79.8	78.6							
9-year	58.9	64.3	70.0	72.2	74.2	74.9	74.9	76.0	75.7	79.6	76.4	76.4	78.0	76.9	79.4								
10-year	58.6	63.8	69.6	71.9	73.9	74.9	74.8	75.7	75.5	79.3	75.7	76.0	77.7	76.6									
11-year	58.2	63.5	69.3	71.4	73.6	74.8	74.6	75.3	75.3	79.1	75.4	75.5	77.3										
12-year	57.9	63.0	69.0	71.2	73.3	74.8	74.6	74.8	75.1	79.0	75.2	75.0											
13-year	57.7	62.7	68.8	70.6	73.1	74.4	74.3	74.6	75.0	78.9	74.9												
14-year	57.4	62.3	68.3	70.3	73.0	74.1	73.8	74.5	74.9	78.8													
15-year	57.1	62.1	68.1	70.0	72.8	73.8	73.8	74.3	74.8														
16-year	56.8	61.6	67.7	69.6	72.6	73.7	73.4	74.1															
17-year	56.5	61.4	67.6	68.7	72.5	73.5	73.3																
18-year	56.2	61.2	67.3	68.5	72.4	73.3																	
19-year	56.0	60.9	67.1	68.5	71.8																		
20-year	55.7	60.6	66.7	68.3																			

^a

Based on 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, 2010
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 <19 ^e	0 to <35 ^e	>=35 ^f	Complete ^g
Race	Sex										
All Races ^b	Both Sexes	63,904	55,339	48,098	43,098	36,804	30,537	210,439	304,247	+	+
	Males	33,948	29,297	25,078	22,583	18,590	15,258	110,906	156,819	+	+
	Females	29,956	26,042	23,020	20,515	18,214	15,279	99,533	147,428	+	+
White ^b	Both Sexes	51,809	46,650	40,429	36,395	31,853	26,845	175,284	257,416	+	+
	Males	27,680	24,866	20,948	19,277	16,133	13,540	92,772	133,285	+	+
	Females	24,129	21,784	19,481	17,118	15,720	13,305	82,512	124,131	+	+
Black ^b	Both Sexes	7,556	5,571	4,739	4,240	3,173	2,580	22,104	30,016	+	+
	Males	3,977	2,757	2,516	2,069	1,522	1,189	11,317	14,861	+	+
	Females	3,579	2,814	2,223	2,171	1,651	1,391	10,787	15,155	+	+
Asian/ Pacific Islander ^c	Both Sexes	2,583	1,967	1,774	+	+	+	7,257	+	+	+
	Males	1,329	1,047	968	+	+	+	3,784	+	+	+
	Females	1,254	920	806	+	+	+	3,473	+	+	+
Hispanic ^d	Both Sexes	12,879	9,562	7,492	+	+	+	29,934	+	+	+
	Males	7,136	5,215	3,895	+	+	+	16,246	+	+	+
	Females	5,743	4,347	3,597	+	+	+	13,688	+	+	+

^a US 2010 cancer prevalence counts are based on 2010 cancer prevalence proportions from the SEER registries and 1/1/2010 US population estimates based on the average of 2009 and 2010 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: 35 years for 1975-2010 SEER 9 data; 18 years for 1992-2010 SEER 11 data (used to calculate prevalence for Hispanics and Asian Pacific Islanders).

^{f g} (f) Cases diagnosed more than 35 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 <35 and >=35. Statistic not shown. Statistic based on fewer than 5 cases estimated alive in SEER for the time interval.

– Not available.

+

Table 28.13
Age-Specific Rates^a and Counts for the Top 5 Cancer Sites^b by Single Year of Age at Diagnosis
SEER Cancer Incidence^c 2006-2010

Age <1			Age 1			Age 2		
	Rate	Cases		Rate	Cases		Rate	Cases
All Sites	23.6	1,379	All Sites	22.4	1,295	All Sites	24.1	1,396
Leukemia	4.7	276	Leukemia	6.8	392	Leukemia	10.9	632
Acute Lymphocytic Leukemia	2.0	119	Acute Lymphocytic Leukemia	4.6	267	Acute Lymphocytic Leukemia	9.8	567
Brain and ONS ^d	3.8	223	Brain and ONS ^d	4.9	284	Brain and ONS ^d	4.3	251
Soft Tissue	3.2	187	Kidney and Renal Pelvis	2.2	128	Kidney and Renal Pelvis	2.2	126
Eye and Orbit	2.9	170	Soft Tissue	1.7	101	Eye and Orbit	1.3	74
Other Endocrine	2.6	153	Eye and Orbit	1.5	89	Other Endocrine	1.3	73
Age 3			Age 4			Age 5		
	Rate	Cases		Rate	Cases		Rate	Cases
All Sites	21.6	1,249	All Sites	18.2	1,057	All Sites	14.0	806
Leukemia	10.4	603	Leukemia	8.4	484	Leukemia	5.2	303
Acute Lymphocytic Leukemia	9.5	551	Acute Lymphocytic Leukemia	7.6	438	Acute Lymphocytic Leukemia	4.6	268
Brain and ONS ^d	4.0	233	Brain and ONS ^d	3.7	215	Brain and ONS ^d	3.9	224
Kidney and Renal Pelvis	2.0	115	Kidney and Renal Pelvis	1.6	92	Non-Hodgkin Lymphoma	1.2	67
Other Endocrine	1.3	73	Non-Hodgkin Lymphoma	0.9	55	Kidney and Renal Pelvis	1.0	55
Soft Tissue	1.0	59	Soft Tissue	0.8	46	Soft Tissue	0.7	40
Age 6			Age 7			Age 8		
	Rate	Cases		Rate	Cases		Rate	Cases
All Sites	13.5	764	All Sites	11.7	664	All Sites	11.4	642
Leukemia	4.8	272	Leukemia	3.9	218	Brain and ONS ^d	3.3	185
Acute Lymphocytic Leukemia	4.4	249	Acute Lymphocytic Leukemia	3.2	179	Leukemia	3.2	179
Brain and ONS ^d	3.6	205	Brain and ONS ^d	3.6	202	Acute Lymphocytic Leukemia	2.6	147
Non-Hodgkin Lymphoma	0.9	51	Non-Hodgkin Lymphoma	0.9	49	Non-Hodgkin Lymphoma	1.1	59
Kidney and Renal Pelvis	0.9	49	Soft Tissue	0.7	38	Hodgkin Lymphoma	0.7	40
Hodgkin Lymphoma	0.6	35	Bones and Joints	0.5	31	Bones and Joints	0.7	38
Age 9			Age 10			Age 11		
	Rate	Cases		Rate	Cases		Rate	Cases
All Sites	11.0	624	All Sites	11.5	677	All Sites	12.6	744
Leukemia	3.4	193	Leukemia	3.3	196	Leukemia	3.3	194
Acute Lymphocytic Leukemia	2.7	151	Acute Lymphocytic Leukemia	2.4	142	Acute Lymphocytic Leukemia	2.3	134
Brain and ONS ^d	2.8	160	Brain and ONS ^d	2.6	154	Brain and ONS ^d	2.8	162
Non-Hodgkin Lymphoma	1.0	57	Bones and Joints	1.0	60	Bones and Joints	1.3	78
Bones and Joints	0.9	51	Non-Hodgkin Lymphoma	0.9	55	Non-Hodgkin Lymphoma	1.2	72
Soft Tissue	0.7	41	Soft Tissue	0.8	50	Soft Tissue	0.9	51

^a Rates are per 100,000 per year.

^b Top 5 cancer sites were determined based on the 2006-2010 age-specific rate.

^c SEER 18 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, New Jersey and Georgia excluding ATL/RG).

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

^e The rates for sex-specific cancer sites are calculated using the population for both sexes combined.

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

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

SEER Cancer Incidence^c 2006-2010

Age 12			Age 13			Age 14		
	Rate	Cases		Rate	Cases		Rate	Cases
All Sites	12.7	759	All Sites	14.2	859	All Sites	16.1	982
Leukemia	2.9	171	Leukemia	3.2	193	Leukemia	3.6	216
Acute Lymphocytic Leukemia	1.9	116	Acute Lymphocytic Leukemia	2.1	128	Acute Lymphocytic Leukemia	2.2	136
Brain and ONS ^d	2.8	165	Brain and ONS ^d	2.4	147	Brain and ONS ^d	2.5	151
Bones and Joints	1.5	89	Hodgkin Lymphoma	1.8	106	Hodgkin Lymphoma	1.9	115
Non-Hodgkin Lymphoma	1.2	74	Bones and Joints	1.4	87	Non-Hodgkin Lymphoma	1.8	110
Hodgkin Lymphoma	1.1	63	Non-Hodgkin Lymphoma	1.2	70	Bones and Joints	1.5	90
Age 15			Age 16			Age 17		
	Rate	Cases		Rate	Cases		Rate	Cases
All Sites	18.3	1,138	All Sites	19.5	1,238	All Sites	21.3	1,351
Leukemia	3.2	199	Leukemia	3.5	219	Hodgkin Lymphoma	3.1	195
Acute Lymphocytic Leukemia	2.0	123	Acute Lymphocytic Leukemia	2.2	137	Leukemia	2.9	185
Hodgkin Lymphoma	2.5	157	Hodgkin Lymphoma	2.8	177	Acute Lymphocytic Leukemia	1.6	104
Brain and ONS ^d	2.2	139	Brain and ONS ^d	2.6	163	Thyroid	2.4	150
Non-Hodgkin Lymphoma	1.9	120	Thyroid	1.9	122	Brain and ONS ^d	2.0	128
Bones and Joints	1.9	117	Non-Hodgkin Lymphoma	1.5	93	Testis ^e	2.0	126
Age 18			Age 19					
	Rate	Cases		Rate	Cases			
All Sites	22.2	1,390	All Sites	24.4	1,492			
Hodgkin Lymphoma	3.4	211	Hodgkin Lymphoma	4.1	251			
Leukemia	3.2	203	Testis ^e	3.0	183			
Acute Lymphocytic Leukemia	1.7	105	Thyroid	2.9	175			
Thyroid	2.8	178	Leukemia	2.7	165			
Testis ^e	2.4	148	Acute Lymphocytic Leukemia	1.4	87			
Brain and ONS ^d	1.6	103	Non-Hodgkin Lymphoma	1.8	110			

^a Rates are per 100,000 per year.

^b Top 5 cancer sites were determined based on the 2006-2010 age-specific rate.

^c SEER 18 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, New Jersey and Georgia excluding ATL/RG).

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

^e The rates for sex-specific cancer sites are calculated using the population for both sexes combined.

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

Table 28.14
Age-Specific Rates^a and Deaths for the Top 5 Cancer Sites^b by Single Year of Age at Death
U.S. Mortality^c 2006-2010

Age <1			Age 1			Age 2		
	Rate	Deaths		Rate	Deaths		Rate	Deaths
All Sites	1.7	354	All Sites	1.9	381	All Sites	2.3	461
Leukemia	0.6	131	Leukemia	0.8	154	Leukemia	0.8	168
Acute Lymphocytic Leukemia	0.2	46	Acute Lymphocytic Leukemia	0.2	44	Acute Lymphocytic Leukemia	0.3	54
Brain and ONS ^d	0.3	67	Brain and ONS ^d	0.5	96	Brain and ONS ^d	0.5	109
Other Endocrine	0.2	33	Other Endocrine	0.2	46	Other Endocrine	0.4	85
Liver & IBD ^d	0.1	22	Liver & IBD ^d	0.1	17	Liver & IBD ^d	0.1	30
Soft Tissue	0.1	16	Soft Tissue	0.1	16	Soft Tissue	0.1	23
Age 3			Age 4			Age 5		
	Rate	Deaths		Rate	Deaths		Rate	Deaths
All Sites	2.5	505	All Sites	2.4	484	All Sites	2.4	484
Brain and ONS ^d	0.7	146	Brain and ONS ^d	0.8	163	Brain and ONS ^d	1.0	192
Leukemia	0.7	146	Leukemia	0.6	115	Leukemia	0.5	108
Acute Lymphocytic Leukemia	0.2	48	Acute Lymphocytic Leukemia	0.2	49	Acute Lymphocytic Leukemia	0.3	57
Other Endocrine	0.5	104	Other Endocrine	0.4	87	Other Endocrine	0.4	71
Soft Tissue	0.2	33	Soft Tissue	0.1	27	Kidney and Renal Pelvis	0.1	30
Liver & IBD ^d	0.1	21	Kidney and Renal Pelvis	0.1	22	Soft Tissue	0.1	26
Age 6			Age 7			Age 8		
	Rate	Deaths		Rate	Deaths		Rate	Deaths
All Sites	2.3	463	All Sites	2.4	479	All Sites	2.3	447
Brain and ONS ^d	0.9	171	Brain and ONS ^d	1.0	192	Brain and ONS ^d	0.8	163
Leukemia	0.5	102	Leukemia	0.6	111	Leukemia	0.6	125
Acute Lymphocytic Leukemia	0.3	51	Acute Lymphocytic Leukemia	0.3	67	Acute Lymphocytic Leukemia	0.4	73
Other Endocrine	0.4	75	Other Endocrine	0.3	63	Other Endocrine	0.3	50
Kidney and Renal Pelvis	0.1	30	Soft Tissue	0.2	37	Soft Tissue	0.2	33
Soft Tissue	0.1	28	Bones and Joints	0.1	19	Kidney and Renal Pelvis	-	-
Age 9			Age 10			Age 11		
	Rate	Deaths		Rate	Deaths		Rate	Deaths
All Sites	2.2	439	All Sites	2.0	406	All Sites	2.2	451
Brain and ONS ^d	0.8	164	Leukemia	0.7	152	Leukemia	0.7	147
Leukemia	0.6	125	Acute Lymphocytic Leukemia	0.3	70	Acute Lymphocytic Leukemia	0.4	74
Acute Lymphocytic Leukemia	0.3	69	Brain and ONS ^d	0.6	124	Brain and ONS ^d	0.7	140
Bones and Joints	0.2	33	Other Endocrine	0.2	37	Bones and Joints	0.2	39
Other Endocrine	0.2	33	Bones and Joints	0.2	32	Other Endocrine	0.2	34
Soft Tissue	0.1	28	Soft Tissue	0.1	26	Non-Hodgkin Lymphoma	0.1	21

^a Rates are per 100,000 per year. Deaths are for the entire United States over the time period 2006-2010.

^b Top 5 cancer sites were determined based on the 2006-2010 age-specific rate.

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

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

^e The rates for sex-specific cancer sites are calculated using the population for both sexes combined.

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

Table 28.14 - continued
Age-Specific Rates^a and Deaths for the Top 5 Cancer Sites^b by Single Year of Age at Death

U.S. Mortality^c 2006-2010

Age 12			Age 13			Age 14		
	Rate	Deaths		Rate	Deaths		Rate	Deaths
All Sites	2.1	445	All Sites	2.3	491	All Sites	2.2	463
Leukemia	0.6	135	Leukemia	0.7	153	Leukemia	0.8	161
Acute Lymphocytic Leukemia	0.3	61	Acute Lymphocytic Leukemia	0.3	72	Acute Lymphocytic Leukemia	0.3	65
Brain and ONS ^d	0.6	127	Brain and ONS ^d	0.6	135	Brain and ONS ^d	0.5	100
Bones and Joints	0.3	56	Bones and Joints	0.2	47	Bones and Joints	0.3	64
Soft Tissue	0.2	40	Soft Tissue	0.2	34	Soft Tissue	0.2	42
Non-Hodgkin Lymphoma	0.1	19	Non-Hodgkin Lymphoma	0.1	29	Non-Hodgkin Lymphoma	0.1	20
Age 15			Age 16			Age 17		
	Rate	Deaths		Rate	Deaths		Rate	Deaths
All Sites	2.6	563	All Sites	2.9	630	All Sites	2.7	602
Leukemia	0.9	198	Leukemia	0.8	179	Leukemia	0.8	174
Acute Lymphocytic Leukemia	0.3	73	Acute Lymphocytic Leukemia	0.3	69	Acute Lymphocytic Leukemia	0.4	78
Brain and ONS ^d	0.5	103	Brain and ONS ^d	0.5	107	Bones and Joints	0.5	115
Bones and Joints	0.3	72	Bones and Joints	0.5	104	Brain and ONS ^d	0.4	99
Soft Tissue	0.2	49	Soft Tissue	0.3	63	Soft Tissue	0.2	55
Non-Hodgkin Lymphoma	0.2	36	Non-Hodgkin Lymphoma	0.2	42	Non-Hodgkin Lymphoma	0.1	31
Age 18			Age 19					
	Rate	Deaths		Rate	Deaths			
All Sites	3.1	686	All Sites	3.6	797			
Leukemia	0.9	204	Leukemia	0.8	185			
Acute Lymphocytic Leukemia	0.4	85	Acute Lymphocytic Leukemia	0.4	78			
Bones and Joints	0.6	129	Brain and ONS ^d	0.5	120			
Brain and ONS ^d	0.4	80	Bones and Joints	0.5	119			
Soft Tissue	0.3	64	Soft Tissue	0.4	91			
Non-Hodgkin Lymphoma	0.2	48	Non-Hodgkin Lymphoma	0.3	66			

^a Rates are per 100,000 per year. Deaths are for the entire United States over the time period 2006-2010.

^b Top 5 cancer sites were determined based on the 2006-2010 age-specific rate.

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

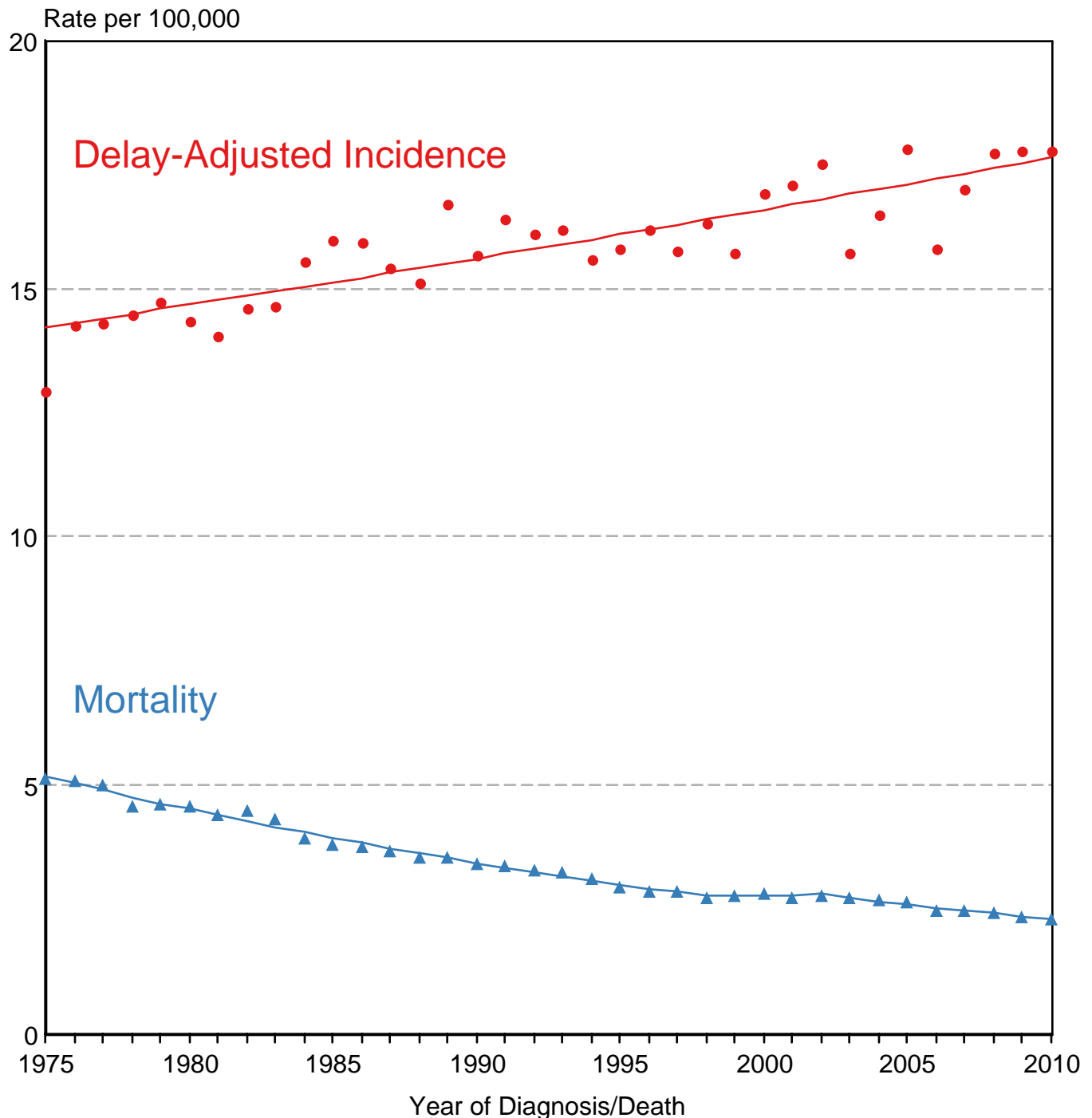
^d ONS = Other Nervous System. IBD = Intrahepatic Bile Duct.

^e The rates for sex-specific cancer sites are calculated using the population for both sexes combined.

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

Figure 28.1

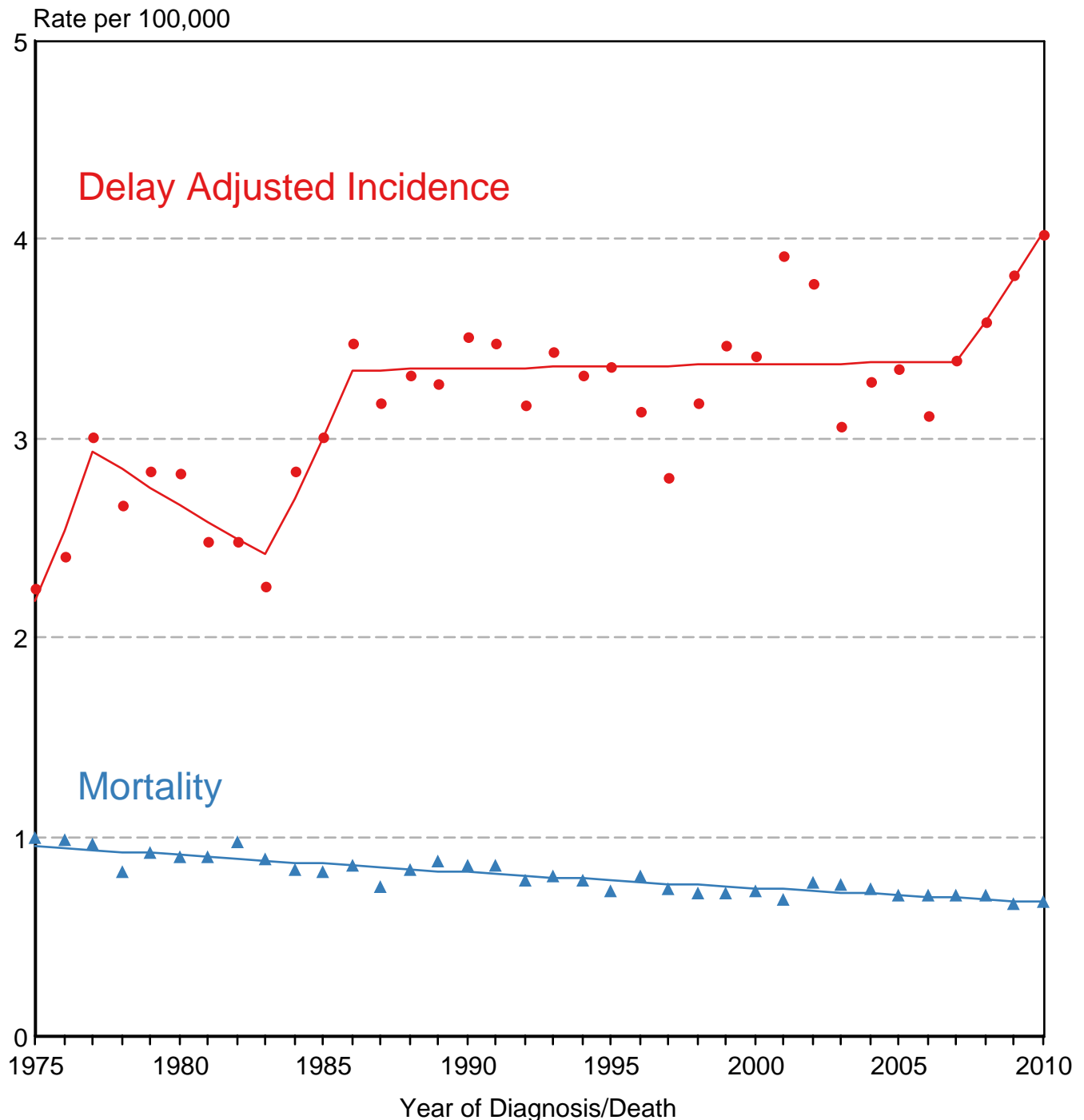
SEER Delay-Adjusted Incidence and US Mortality All Childhood Cancers, Under 20 Years of Age Both Sexes, All Races, 1975-2010



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 are calculated using the Joinpoint Regression Program Version 4.0.3, April 2013, National Cancer Institute.

Figure 28.2

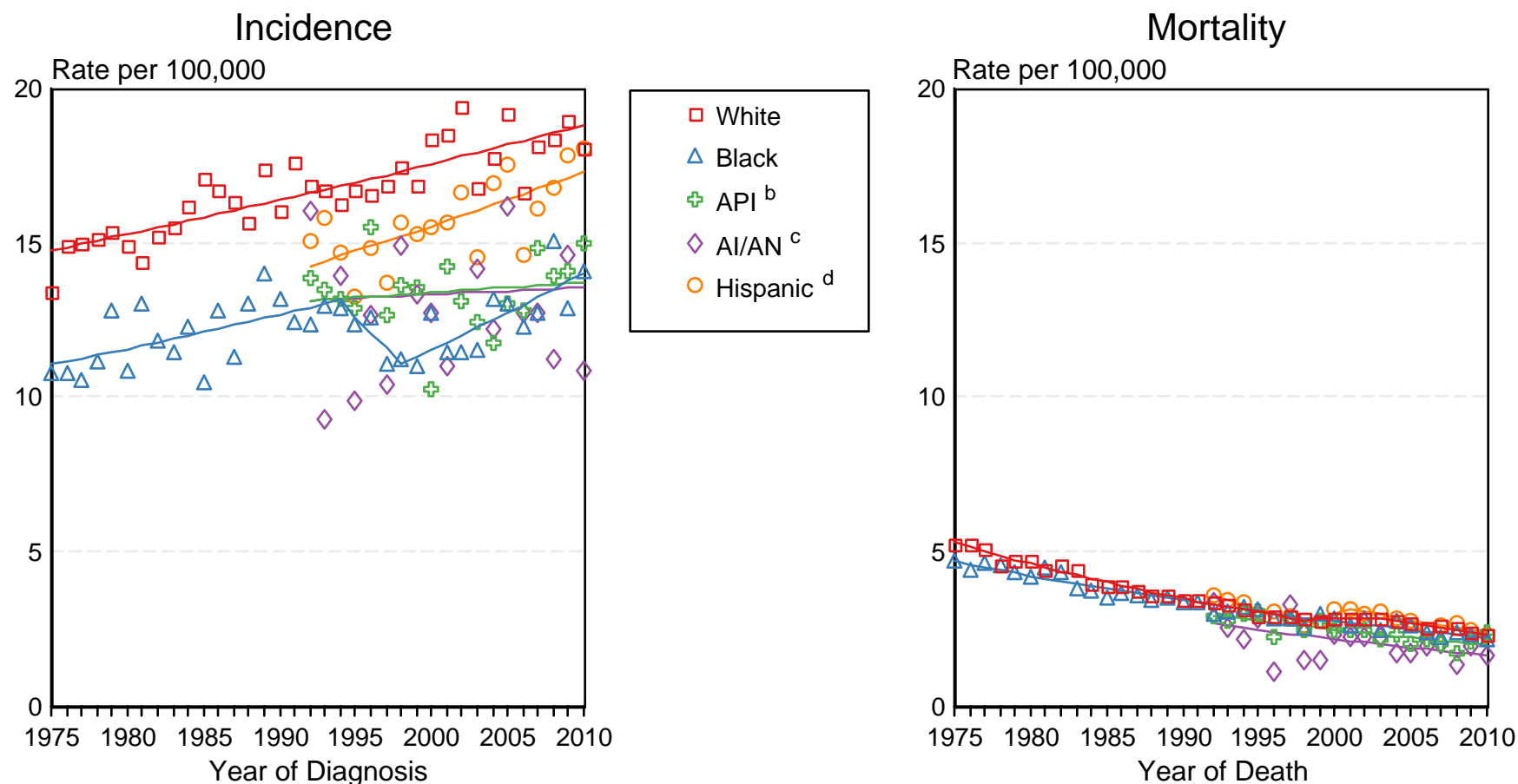
SEER Delay-Adjusted Incidence and US Mortality Brain and CNS, Under 15 Years of Age Both Sexes, All Races, 1975-2010



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 are calculated using the Joinpoint Regression Program Version 4.0.3, April 2013,
National Cancer Institute.

Figure 28.3

SEER Incidence and US Death Rates^a All Cancer Sites, Ages <20, Both Sexes Joinpoint Analyses for Whites and Blacks from 1975-2010 and for Asian/Pacific Islanders, American Indians/Alaska Natives and Hispanics from 1992-2010



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 4.0.3, April 2013, National Cancer Institute. Joinpoint analyses for Whites and Blacks during the 1975-2010 period allow a maximum of 5 joinpoints. Analyses for other ethnic groups during the period 1992-2010 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, South Carolina, Oklahoma, and Vermont.