

Table 29.1

Age-Adjusted and Age-Specific SEER Cancer Incidence Rates, 2009-2013<sup>a</sup>  
 By International Classification of Childhood Cancer (ICCC)<sup>b</sup> Group and Subgroup<sup>c</sup> and Age at Diagnosis  
 Including myelodysplastic syndromes and Group III benign brain/CNS tumors  
 All Races, Males and Females

<u>ICCC Group and Subgroup</u>	<u>0-14</u>	<u>0-19</u>	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>
All ICCC Groups Combined							
Excluding Group III benign brain/CNS tumors	162.4	178.0	239.0	219.8	127.7	138.9	224.2
Including Group III benign brain/CNS tumors <sup>d</sup>	174.3	194.7	249.8	227.4	138.1	155.6	255.6
I Leukemia (includes myelodysplastic syndromes)	54.5	49.4	51.5	94.8	44.4	34.4	34.3
I(a) Lymphoid leukemia	41.5	35.5	20.1	78.6	36.6	22.4	17.4
I(b) Acute myeloid leukemia	8.5	8.9	19.2	11.6	4.8	7.8	10.2
I(c) Chronic myeloproliferative diseases	1.4	2.1	-	0.9	0.7	2.3	3.9
I(d) Myelodysplastic syndrome and other myeloproliferative	1.3	1.3	5.5	1.6	0.7	0.9	1.5
I(e) Unspecified and other specified leukemias	1.7	1.6	4.2	2.2	1.6	1.0	1.2
II Lymphomas and reticuloendothelial neoplasms	16.4	24.5	-	8.3	16.3	25.2	48.5
II(a) Hodgkin lymphoma	5.8	12.0	-	1.2	4.4	11.6	30.5
II(b) Non-Hodgkin lymphoma (except Burkitt lymphoma)	7.8	9.5	-	5.4	8.0	10.7	14.7
II(c) Burkitt lymphoma	2.4	2.4	-	1.3	3.5	2.5	2.5
II(d) Miscellaneous lymphoreticular neoplasms	0.3	0.2	-	-	-	-	-
II(e) Unspecified lymphomas	0.2	0.3	-	-	-	-	0.7
III CNS and misc intracranial and intraspinal neoplasms <sup>d</sup>	45.3	47.2	44.9	49.2	44.8	42.9	52.7
III(a) Ependymomas and choroid plexus tumor	4.0	3.7	8.6	6.8	2.5	2.5	2.9
III(b) Astrocytoma	17.6	16.5	13.9	19.9	18.0	16.2	13.2
III(c) Intracranial and intraspinal embryonal tumors	7.1	5.9	11.6	10.3	7.2	3.8	2.4
III(d) Other gliomas	5.9	5.4	-	5.7	7.8	4.9	4.0
III(e) Other specified intracranial/intraspinal neoplasms	9.3	14.0	6.2	5.6	8.0	13.9	28.2
III(f) Unspecified intracranial and intraspinal neoplasms	1.4	1.5	-	0.9	1.3	1.7	2.0
IV Neuroblastoma and other peripheral nervous cell tumor	10.6	8.2	49.6	21.8	4.0	1.4	0.9
IV(a) Neuroblastoma and ganglioneuroblastoma	10.5	7.9	49.6	21.6	3.8	1.3	-
IV(b) Other peripheral nervous cell tumors	-	0.2	-	-	-	-	-
V Retinoblastoma	4.4	3.3	30.8	8.7	-	-	-
VI Renal tumors	8.1	6.6	14.2	19.1	5.5	1.1	2.2
VI(a) Nephroblastoma and other nonepithelial renal tumor	7.8	5.9	13.9	19.0	5.3	0.7	-
VI(b) Renal carcinoma	0.3	0.7	-	-	-	-	1.9
VI(c) Unspecified malignant renal tumors	-	-	-	-	-	-	-

- <sup>a</sup> 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).
- <sup>b</sup> International Classification of Childhood Cancer is based on ICD-O-3. Steliarova-Foucher E, Stiller C, Lacour B, Kaatsch P. International Classification of Childhood Cancer, Third Edition. Cancer. April 1, 2005: Vol 103, No. 7, pg 1457-1467.
- <sup>c</sup> Classifications are shown for invasive cases only except as noted. For ICCC groups and subgroups that include *in situ* behavior, only invasive cases are shown except as noted.
- <sup>d</sup> Group III and Group III subgroups include benign brain/CNS tumors.
- Rates are per 1,000,000 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 29.1 - continued

Age-Adjusted and Age-Specific SEER Cancer Incidence Rates, 2009-2013<sup>a</sup>  
 By International Classification of Childhood Cancer (ICCC)<sup>b</sup> Group and Subgroup<sup>c</sup> and Age at Diagnosis  
 Including myelodysplastic syndromes and Group III benign brain/CNS tumors  
 All Races, Males and Females

<u>ICCC Group and Subgroup</u>	<u>0-14</u>	<u>0-19</u>	<u>&lt;1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>
VII Hepatic tumors	3.1	2.5	12.3	6.7	0.7	1.0	1.0
VII(a) Hepatoblastoma	2.6	2.0	12.1	6.4	-	-	-
VII(b) Hepatic carcinoma	0.5	0.6	-	-	-	0.8	0.9
VII(c) Unspecified malignant hepatic tumors	-	-	-	-	-	-	-
VIII Malignant bone tumors	7.3	9.0	-	1.9	6.1	13.9	14.1
VIII(a) Osteosarcoma	4.1	5.2	-	-	3.4	8.5	8.3
VIII(b) Chondrosarcoma	0.2	0.4	-	-	-	-	0.8
VIII(c) Ewing tumor and related sarcomas of bone	2.5	2.8	-	1.1	2.3	4.3	3.7
VIII(d) Other specified malignant bone tumors	0.3	0.4	-	-	-	-	0.8
VIII(e) Unspecified malignant bone tumors	-	0.2	-	-	-	-	-
IX Soft tissue and other extraosseous sarcomas	10.8	12.2	19.9	10.8	8.5	11.5	16.2
IX(a) Rhabdomyosarcoma	5.0	4.7	5.6	7.4	4.4	3.8	3.6
IX(b) Fibrosarcoma, peripheral nerve & other fibrous	0.9	1.1	4.7	-	0.6	0.8	1.6
IX(c) Kaposi sarcoma	-	-	-	-	-	-	-
IX(d) Other specified soft tissue sarcomas	3.8	5.0	6.3	2.0	3.0	5.5	8.6
IX(e) Unspecified soft-tissue sarcomas	1.0	1.3	2.8	0.7	0.6	1.4	2.2
X Germ cell & trophoblastic tumors & neoplasms of gonads	5.8	12.4	18.8	3.8	3.0	7.6	32.1
X(a) Intracranial and intraspinal germ-cell tumors	2.1	2.4	3.5	-	2.1	2.9	3.2
X(b) Extracranial & extragonadal germ cell tumors	1.3	1.5	11.8	1.3	-	0.6	1.9
X(c) Malignant gonadal germ cell tumors	2.6	8.2	4.7	2.2	1.0	4.0	25.0
X(d) Gonadal carcinomas	-	0.5	-	-	-	-	1.6
X(e) Other and unspecified malignant gonadal tumors	-	0.3	-	-	-	-	0.8
XI Other malignant epithelial neoplasms and melanomas <sup>d</sup>	7.4	18.9	-	1.6	4.2	16.0	52.9
XI(a) Adrenocortical carcinoma	0.3	0.3	-	-	-	-	-
XI(b) Thyroid carcinoma	3.2	9.4	-	-	1.4	7.8	27.7
XI(c) Nasopharyngeal carcinoma	0.3	0.6	-	-	-	0.8	1.3
XI(d) Malignant melanoma	1.7	3.9	-	0.8	1.5	2.6	10.5
XI(e) Skin carcinoma	-	-	-	-	-	-	-
XI(f) Other and unspecified carcinomas <sup>d</sup>	1.8	4.6	-	-	1.0	4.1	13.0
XII Other and unspecified malignant neoplasms	0.5	0.6	2.8	0.7	-	-	0.8
XII(a) Other specified malignant tumors	0.3	0.3	-	-	-	-	0.5
XII(b) Other unspecified malignant tumors	0.3	0.3	-	-	-	-	-
Not classified by ICC	0.3	0.4	-	-	-	-	-

<sup>a</sup> 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).

<sup>b</sup> International Classification of Childhood Cancer is based on ICD-O-3. Steliarova-Foucher E, Stiller C, Lacour B, Kaatsch P. International Classification of Childhood Cancer, Third Edition. Cancer. April 1, 2005: Vol 103, No. 7, pg 1457-1467.

<sup>c</sup> Classifications are shown for invasive cases only except as noted. For ICC groups and subgroups that include *in situ* behavior, only invasive cases are shown except as noted.

<sup>d</sup> Includes *in situ* urinary bladder tumors.

Rates are per 1,000,000 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 29.2

Age-Adjusted SEER Cancer Incidence Rates<sup>a</sup>  
 By International Classification of Childhood Cancer (ICCC)<sup>b</sup> Selected Group and Subgroup<sup>c</sup> and Year of Diagnosis  
 Excluding benign brain and myelodysplastic syndromes  
 All Races, Males and Females, Ages 0-19

<u>ICCC Group and Subgroup</u>	<u>1975-2013</u>	<u>1975-1984</u>	<u>1985-1994</u>	<u>1995-2004</u>	<u>2005-2013</u>
All ICCC Groups Combined	160.2	143.7	158.9	163.3	174.1
I Leukemia	39.3	34.9	37.9	40.8	43.1
I(a) Lymphoid leukemia	29.4	25.7	28.2	30.9	32.4
I(b) Acute myeloid leukemia	7.2	5.9	6.8	7.9	8.0
II Lymphomas and reticuloendothelial neoplasms	24.7	24.6	24.9	23.4	25.9
II(a) Hodgkin lymphoma	13.1	14.4	13.8	11.8	12.5
II(b,c,e) Non-Hodgkin lymphoma	11.0	9.5	10.4	11.2	13.0
III CNS & misc intracranial & intraspinal neoplasms	28.4	23.1	29.8	29.7	30.7
III(a) Ependymomas and choroid plexus tumor	2.4	1.8	2.5	2.5	2.7
III(b) Astrocytoma	14.4	11.7	15.6	14.5	15.7
III(c) Intracranial and intraspinal embryonal tumors	5.6	4.3	5.5	6.4	6.0
III(d) Other gliomas	5.2	4.4	5.1	5.6	5.5
IV Neuroblastoma and other peripheral nervous cell tumors	8.5	8.1	8.3	8.6	9.0
IV(a) Neuroblastoma and ganglioneuroblastoma	8.3	8.0	8.0	8.4	8.7
V Retinoblastoma	3.0	2.8	3.3	3.1	3.0
VI Renal tumors	6.6	6.5	7.0	6.5	6.3
VI(a) Nephroblastoma and other nonepithelial renal tumor	6.1	6.2	6.5	6.0	5.7
VII Hepatic tumors	1.9	1.3	1.6	2.2	2.6
VII(a) Hepatoblastoma	1.4	0.9	1.2	1.6	1.7
VIII Malignant bone tumors	8.6	8.2	9.1	8.4	8.7
VIII(a) Osteosarcoma	4.7	4.2	5.0	4.8	4.8
VIII(c) Ewing tumor and related sarcomas of bone	2.9	3.1	3.1	2.6	3.0
IX Soft tissue and other extraosseous sarcomas	11.6	10.4	10.9	12.1	12.8
IX(a) Rhabdomyosarcoma	4.5	4.1	4.7	4.7	4.6
X Germ cell & trophoblastic tumors & neoplasms of gonads	10.6	9.3	10.6	10.9	11.8
X(a) Intracranial and intraspinal germ-cell tumor	1.5	0.9	1.5	1.8	1.7
X(c) Malignant gonadal germ cell tumor	6.8	5.9	6.5	7.1	7.7
XI Other malignant epithelial neoplasms and melanomas <sup>d</sup>	16.3	13.7	15.0	16.9	19.7
XI(b) Thyroid carcinoma	6.2	4.9	5.2	6.2	8.6
XI(d) Malignant melanoma	5.1	3.9	5.2	5.8	5.4

<sup>a</sup> SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta).

Rates are per 1,000,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

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<sup>c</sup> Classifications are shown for invasive cases only except as noted. For ICCC groups and subgroups that include *in situ* behavior, only invasive cases are shown except as noted.

<sup>d</sup> Includes *in situ* urinary bladder tumors.

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

Table 29.3

Age-Adjusted SEER Cancer Incidence Trends, 1975-2013<sup>a</sup>  
 By International Classification of Childhood Cancer (ICCC)<sup>b</sup> Selected Group and Subgroup<sup>c</sup>  
 Excluding benign brain and myelodysplastic syndromes  
 All Races, Males and Females

ICCC Group and Subgroup	Ages 0-14				Ages 0-19			
	% Change 1975-2013	APC 1975-2013	APC 1975-1994	APC 1995-2013	% Change 1975-2013	APC 1975-2013	APC 1975-1994	APC 1995-2013
All ICCG Groups Combined	34.1	0.6*	0.9*	0.6*	33.6	0.6*	0.9*	0.7*
I Leukemia	48.7	0.7*	0.7	0.6*	42.0	0.7*	0.7*	0.6*
I(a) Lymphoid leukemia	69.2	0.8*	0.8*	0.5	65.6	0.8*	0.9*	0.5
I(b) Acute myeloid leukemia	30.8	1.0*	1.3	0.3	27.0	1.0*	1.2	0.3
II Lymphomas and reticuloendothelial neo.	-10.9	0.2	-0.6	1.6* <sup>#</sup>	-10.1	0.1	0.1	1.0* <sup>#</sup>
II(a) Hodgkin lymphoma	-12.6	-0.5*	-1.3*	1.2 <sup>#</sup>	-25.6	-0.6*	-0.4	0.5
II(b,c,e) Non-Hodgkin lymphoma	-2.9	0.9*	0.0	2.1* <sup>#</sup>	18.6	1.1*	1.0*	1.5*
III CNS & misc intracranial & intraspinal neo.	52.8	0.9*	2.2*	0.4 <sup>#</sup>	51.9	0.8*	1.9*	0.4 <sup>#</sup>
III(a) Ependymomas and choroid plexus tumors	-	-	-	0.4	-	-	-	0.3
III(b) Astrocytoma	70.8	1.0*	3.1*	0.9 <sup>#</sup>	71.1	0.8*	2.5*	0.9 <sup>#</sup>
III(c) Intracranial and intraspinal embryonal tum.	143.6	0.9*	1.6	-0.6 <sup>@</sup>	147.1	1.0*	1.9*	-0.6 <sup>#</sup>
III(d) Other gliomas	-10.1	0.5	0.5	0.8	-3.8	0.7*	0.7	0.2
IV Neuroblastoma and other peripheral nervous cell tumors	17.4	0.4	0.3	0.2	18.8	0.4	0.3	0.3
IV(a) Neuroblastoma and ganglioneuroblastoma	14.1	0.4	0.3	0.2	13.9	0.3	0.2	0.2
V Retinoblastoma	-18.3	0.1	1.7*	-0.6 <sup>#</sup>	-18.3	0.1	1.8*	-0.6 <sup>#</sup>
VI Renal tumors	31.7	-0.2	1.1	-0.6	32.1	-0.1	1.2*	-0.3
VI(a) Nephroblastoma and other nonepithelial renal tumors	37.2	-0.2	0.9	-0.6	40.1	-0.2	1.0	-0.6
VII Hepatic tumors	-	-	-	-	-	-	-	-
VII(a) Hepatoblastoma	-	-	-	-	-	-	-	-
VIII Malignant bone tumors	49.3	0.2	0.9	0.6	24.4	0.1	1.1*	0.2
VIII(a) Osteosarcoma	-	-	-	0.7	44.6	0.4	1.6*	-0.1 <sup>@</sup>
VIII(c) Ewing tum. and related sarcomas of bone	45.9	-	-	-	34.9	-0.2	0.9	1.5
IX Soft tissue and other extrasosseous sarcomas	7.8	0.7*	0.6	0.6	20.4	0.6*	0.2	0.1
IX(a) Rhabdomyosarcoma	-4.9	0.3	1.1	0.0	-0.1	0.3	1.0	-0.3
X Germ cell & trophoblastic tum. & neo. of gonads	38.0	1.0*	1.4	0.3	40.1	0.8*	1.6*	0.8
X(a) Intracranial and intraspinal germ-cell tum.	-	-	-	-	-	-	-	-
X(c) Malignant gonadal germ cell tumors	-	-	-	-	42.3	0.9*	1.1	0.8
XI Other malignant epithelial neo. and melanomas <sup>d</sup>	73.0	1.1*	0.2	1.5*	90.6	1.3*	0.7	2.0* <sup>#</sup>
XI(b) Thyroid carcinoma	71.2	-	-	-	197.6	2.1*	0.5	4.1* <sup>#</sup>
XI(d) Malignant melanoma	-	-	-	-	47.1	0.9*	1.7	-0.4 <sup>@</sup>

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

<sup>a</sup> SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta).

<sup>b</sup> International Classification of Childhood Cancer is based on ICD-O-3. Steliarova-Foucher E, Stiller C, Lacour B, Kaatsch P. International Classification of Childhood Cancer, Third Edition. Cancer. April 1, 2005: Vol 103, No. 7, pg 1457-1467.

<sup>c</sup> Classifications are shown for invasive cases only except as noted. For ICCG groups and subgroups that include *in situ* behavior, only invasive cases are shown except as noted.

<sup>d</sup> Includes *in situ* urinary bladder tumors.

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

# The APC for 1995-2013 is significantly different from the APC for 1975-1994 (p<.05).

@ The APC for 1995-2013 is significantly different from the APC for 1975-1994 (p<.10).

- Statistic could not be calculated. Trend based on less than 10 cases for at least one year within the time interval. Neoplasms are abbreviated as neo. Tumors are abbreviated as tum.

Table 29.4

Age-Adjusted SEER Cancer Incidence Trends, 1975-2013<sup>a</sup>  
 By International Classification of Childhood Cancer (ICCC)<sup>b</sup> Selected Group and Subgroup<sup>c</sup>  
 Excluding benign brain and myelodysplastic syndromes  
 All Races, Males

ICCC Group and Subgroup	Ages 0-14				Ages 0-19			
	% Change 1975-2013	APC 1975-2013	APC 1975-1994	APC 1995-2013	% Change 1975-2013	APC 1975-2013	APC 1975-1994	APC 1995-2013
All ICCC Groups Combined	22.7	0.6*	1.0*	0.4 <sup>@</sup>	30.2	0.6*	1.0*	0.5* <sup>#</sup>
I Leukemia	33.0	0.7*	0.6	0.3	27.7	0.6*	0.5	0.3
I(a) Lymphoid leukemia	52.9	0.7*	0.9	0.1	50.0	0.7*	0.9*	0.2
I(b) Acute myeloid leukemia	40.7	-	-	0.0	29.7	1.1*	0.4	-0.2
II Lymphomas and reticuloendothelial neo.	-12.1	0.1	-0.6	1.8* <sup>#</sup>	-1.7	0.1	-0.1	1.2* <sup>#</sup>
II(a) Hodgkin lymphoma	-8.0	-	-	-	-28.1	-0.6*	-0.8	1.0 <sup>#</sup>
II(b,c,e) Non-Hodgkin lymphoma	-9.4	0.5*	-0.1	1.9* <sup>@</sup>	35.2	0.8*	0.7	1.3
III CNS & misc intracranial & intraspinal neo.	55.2	0.8*	2.5*	0.0 <sup>#</sup>	49.8	0.7*	2.2*	0.0 <sup>#</sup>
III(a) Ependymomas and choroid plexus tumors	-	-	-	-	-	-	-	-
III(b) Astrocytoma	84.4	0.9*	3.1*	0.6 <sup>#</sup>	81.8	0.7*	2.5*	0.7 <sup>#</sup>
III(c) Intracranial and intraspinal embryonal tum.	-	-	-	-0.9	-	-	-	-0.9
III(d) Other gliomas	-21.6	-	-	-	-20.3	-	-	-0.7
IV Neuroblastoma and other peripheral nervous cell tumors	6.4	0.3	1.0	0.0	6.2	0.3	1.1	0.0
IV(a) Neuroblastoma and ganglioneuroblastoma	2.8	0.3	0.9	0.0	2.7	0.3	0.9	0.0
V Retinoblastoma	-	-	-	-	-	-	-	-
VI Renal tumors	8.1	-0.3	1.9*	-1.1 <sup>#</sup>	7.4	-0.2	1.7*	-1.0 <sup>#</sup>
VI(a) Nephroblastoma and other nonepithelial renal tumors	15.9	-0.3	1.8*	-1.0 <sup>#</sup>	21.7	-0.3	1.7*	-1.0 <sup>#</sup>
VII Hepatic tumors	-	-	-	-	-	-	-	-
VII(a) Hepatoblastoma	-	-	-	-	-	-	-	-
VIII Malignant bone tumors	19.8	0.5	1.3	0.1	27.0	0.4	1.7*	-0.1
VIII(a) Osteosarcoma	-	-	-	-	-	-	-	-0.8
VIII(c) Ewing tum. and related sarcomas of bone	-	-	-	-	-9.2	-	-	-
IX Soft tissue and other extrasosseous sarcomas	16.0	0.6*	0.5	0.2	35.6	0.7*	0.5	0.1
IX(a) Rhabdomyosarcoma	29.7	-	-	-0.7	32.8	-	-	-0.4
X Germ cell & trophoblastic tum. & neo. of gonads	11.5	-	-	-	90.3	1.1*	1.8*	0.9
X(a) Intracranial and intraspinal germ-cell tum.	-	-	-	-	-	-	-	-
X(c) Malignant gonadal germ cell tum. (testis)	-	-	-	-	109.6	1.2*	1.1	1.4
XI Other malignant epithelial neo. and melanomas <sup>d</sup>	86.5	-	-	-	101.4	1.2*	1.0	1.9* <sup>#</sup>
XI(b) Thyroid carcinoma	-	-	-	-	-	-	-	-
XI(d) Malignant melanoma	-	-	-	-	58.7	-	-	-

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

<sup>a</sup> SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta).

<sup>b</sup> International Classification of Childhood Cancer is based on ICD-O-3. Steliarova-Foucher E, Stiller C, Lacour B, Kaatsch P.

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<sup>d</sup> Includes *in situ* urinary bladder tumors.

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

# The APC for 1995-2013 is significantly different from the APC for 1975-1994 (p<.05).

@ The APC for 1995-2013 is significantly different from the APC for 1975-1994 (p<.10).

- Statistic could not be calculated. Trend based on less than 10 cases for at least one year within the time interval.

Neoplasms are abbreviated as neo. Tumors are abbreviated as tum.

Table 29.5

Age-Adjusted SEER Cancer Incidence Trends, 1975-2013<sup>a</sup>  
 By International Classification of Childhood Cancer (ICCC)<sup>b</sup> Selected Group and Subgroup<sup>c</sup>  
 Excluding benign brain and myelodysplastic syndromes  
 All Races, Females

ICCC Group and Subgroup	Ages 0-14				Ages 0-19			
	% Change 1975-2013	APC 1975-2013	APC 1975-1994	APC 1995-2013	% Change 1975-2013	APC 1975-2013	APC 1975-1994	APC 1995-2013
All ICCG Groups Combined	48.5	0.6*	0.8*	0.8*	37.6	0.6*	0.8*	0.9*
I Leukemia	73.3	0.7*	0.8	0.9*	64.3	0.7*	1.0*	0.9*
I(a) Lymphoid leukemia	92.9	0.8*	0.8	0.9*	88.2	0.8*	0.8	0.9*
I(b) Acute myeloid leukemia	18.3	0.7	1.5	0.7	23.2	0.9*	2.2*	1.0
II Lymphomas and reticuloendothelial neo.	-8.4	0.4	-0.7	1.3 <sup>@</sup>	-22.9	0.1	0.4	0.7
II(a) Hodgkin lymphoma	-18.5	-	-	-	-22.6	-0.5*	0.0	0.0
II(b,c,e) Non-Hodgkin lymphoma	15.9	-	-	-	-16.8	1.5*	1.3	1.7
III CNS & misc intracranial & intraspinal neo.	50.6	0.9*	1.8*	0.9	54.0	0.9*	1.5*	0.9
III(a) Ependymomas and choroid plexus tumors	-	-	-	-	-	-	-	-
III(b) Astrocytoma	57.9	1.1*	3.1*	1.1 <sup>@</sup>	58.8	0.9*	2.5*	1.1
III(c) Intracranial and intraspinal embryonal tum.	-	-	-	-	-	-	-	-0.1
III(d) Other gliomas	0.4	-	-	-	13.4	-	-	-
IV Neuroblastoma and other peripheral nervous cell tumors	26.8	0.4	-0.5	0.2	29.8	0.4	-0.7	0.3
IV(a) Neuroblastoma and ganglioneuroblastoma	23.8	0.4	-0.7	0.2	23.8	0.3	-0.8	0.2
V Retinoblastoma	-	-	-	-	-	-	-	-
VI Renal tumors	58.8	-0.1	0.4	-0.1	61.4	0.0	0.9	0.2
VI(a) Nephroblastoma and other nonepithelial renal tumors	58.8	-0.3	0.2	-0.2	58.8	-0.2	0.4	-0.2
VII Hepatic tumors	-	-	-	-	-	-	-	-
VII(a) Hepatoblastoma	-	-	-	-	-	-	-	-
VIII Malignant bone tumors	91.3	-	0.9	-	21.0	-0.3	0.3	0.7
VIII(a) Osteosarcoma	-	-	-	-	9.9	0.0	0.9	1.0
VIII(c) Ewing tum. and related sarcomas of bone	-	-	-	-	-	-	-	-
IX Soft tissue and other extrasosseous sarcomas	-1.4	0.7*	0.8	0.9	3.1	0.6	0.0	0.0
IX(a) Rhabdomyosarcoma	-	-	-	-	-	-	-	-
X Germ cell & trophoblastic tum. & neo. of gonads	65.0	-	-	1.2	-1.7	0.3	1.1	0.7
X(a) Intracranial and intraspinal germ-cell tum.	-	-	-	-	-	-	-	-
X(c) Malignant gonadal germ cell tum. (ovary)	-	-	-	-	-32.9	-	-	-0.4
XI Other malignant epithelial neo. and melanomas <sup>d</sup>	62.8	-	-	1.2	85.5	1.3*	0.5	2.1* <sup>@</sup>
XI(b) Thyroid carcinoma	-	-	-	-	193.6	2.2*	0.8	3.8* <sup>#</sup>
XI(d) Malignant melanoma	-	-	-	-	34.2	-	-	-0.4

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

<sup>a</sup> SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta).

<sup>b</sup> International Classification of Childhood Cancer is based on ICD-O-3. Steliarova-Foucher E, Stiller C, Lacour B, Kaatsch P.

International Classification of Childhood Cancer, Third Edition. Cancer. April 1, 2005: Vol 103, No. 7, pg 1457-1467.

<sup>c</sup> Classifications are shown for invasive cases only except as noted. For ICCG groups and subgroups that include *in situ* behavior, only invasive cases are shown except as noted.

<sup>d</sup> Includes *in situ* urinary bladder tumors.

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

# The APC for 1995-2013 is significantly different from the APC for 1975-1994 (p<.05).

@ The APC for 1995-2013 is significantly different from the APC for 1975-1994 (p<.10).

- Statistic could not be calculated. Trend based on less than 10 cases for at least one year within the time interval.

Neoplasms are abbreviated as neo. Tumors are abbreviated as tum.

Table 29.6

5-Year Relative Survival (Percent), 2006-2012<sup>a</sup>By International Classification of Childhood Cancer (ICCC)<sup>b</sup> Selected Group and Subgroup<sup>c</sup> and Sex and Age  
Excluding benign brain and myelodysplastic syndromes

ICCC Group & Subgroup	Ages 0-19 by Sex			Both Sexes by Age					
	Total	Male	Female	<1	1-4	5-9	10-14	15-19	0-14
All ICCC Groups Combined	83.3	82.1	84.6	78.7	84.5	83.2	82.3	83.9	83.0
I Leukemia	83.1	82.8	83.4	62.0	90.0	89.3	77.8	71.3	85.6
I(a) Lymphoid leukemia	88.1	87.5	88.8	60.8	93.7	92.6	82.2	74.7	90.2
I(b) Acute myeloid leukemia	62.9	62.4	63.3	60.0	66.5	69.1	61.2	59.7	64.2
II Lymphomas and reticuloendothelial neo.	93.1	92.9	93.2	79.9 <sup>d</sup>	92.6	94.1	93.8	92.7	93.4
II(a) Hodgkin lymphoma	96.9	96.7	97.0	-	94.5 <sup>d</sup>	97.7	97.9	96.4	97.7
II(b,c,e) Non-Hodgkin lymphoma	88.8	89.3	87.7	-	91.3	92.2	89.7	86.0	90.7
III CNS & misc intracranial & intraspinal neo.	73.8	72.9	74.8	60.3	72.8	70.6	78.6	79.1	72.6
III(a) Ependymomas and choroid plexus tumor	77.9	77.3	78.6	65.3 <sup>e</sup>	74.7	77.5 <sup>d</sup>	82.1 <sup>d</sup>	88.1	75.9
III(b) Astrocytoma	82.6	81.1	84.1	81.8	90.6	80.5	81.3	77.2	83.9
III(c) Intracranial and intraspinal embryonal tumors	62.8	62.3	63.5	29.1	55.6	70.6	76.8	73.2	61.5
III(d) Other gliomas	59.9	63.4	56.2	-	49.2	44.7	70.4	83.3	54.1
IV Neuroblastoma and other peripheral nervous cell tumors	79.5	78.0	81.2	93.8	73.8	70.2	72.3 <sup>d</sup>	74.2 <sup>d</sup>	79.7
IV(a) Neuroblastoma and ganglioneuroblastoma	79.5	78.2	81.0	93.8	73.7	69.8	72.6 <sup>d</sup>	-	79.6
V Retinoblastoma	95.3	94.2	96.5	97.0	93.5	-	-	-	95.3
VI Renal tumors	89.2	87.2	91.1	94.0	91.0	90.1	76.3 <sup>d</sup>	68.1 <sup>d</sup>	90.6
VI(a) Nephroblastoma and other nonepithelial renal tumor	91.1	89.3	92.8	94.0	91.2	91.7	82.1 <sup>e</sup>	-	91.5
VII Hepatic tumors	72.4	71.3	74.6	86.3	83.1	67.5 <sup>d</sup>	35.4 <sup>e</sup>	47.4 <sup>d</sup>	77.1
VII(a) Hepatoblastoma	83.9	82.0	87.2	85.9	83.1	-	-	-	84.2
VIII Malignant bone tumors	70.7	69.1	73.0	-	80.2 <sup>d</sup>	77.6	72.2	65.7	74.2
VIII(a) Osteosarcoma	67.0	65.1	69.4	-	-	72.4	68.8	63.4	69.5
VIII(c) Ewing tumor and related sarcomas of bone	71.7	68.8	76.9	-	94.6	83.0	72.9	59.2	78.7
IX Soft tissue and other extraosseous sarcomas	72.3	70.5	74.5	64.5	75.8	78.8	72.6	69.1	74.0
IX(a) Rhabdomyosarcoma	65.8	66.5	64.9	53.0 <sup>d</sup>	72.7	78.7	59.2	48.9	69.6
X Germ cell & trophoblastic tumors & neo. of gonads	92.4	92.8	91.6	87.7	93.3	98.3	94.0	91.9	93.3
X(a) Intracranial and intraspinal germ-cell tumor	90.0	91.1	85.6 <sup>d</sup>	-	-	98.4	91.1	89.2	90.4
X(c) Malignant gonadal germ cell tumor	96.7	96.1	97.8	100.0	100.0	98.0	99.4	95.7	99.4
XI Other malignant epithelial neo. and melanomas <sup>f</sup>	92.2	86.6	94.9	-	96.3	93.2	93.0	91.8	92.9
XI(b) Thyroid carcinoma	99.7	98.9	99.8	-	-	98.1	100.0	99.7	99.7
XI(d) Malignant melanoma	93.9	91.1	96.0	-	96.3	96.0	94.2	94.0	93.7

<sup>a</sup> 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).

Based on follow-up of patients into 2012.

<sup>b</sup> International Classification of Childhood Cancer is based on ICD-O-3. Steliarova-Foucher E, Stiller C, Lacour B, Kaatsch P. International Classification of Childhood Cancer, Third Edition. Cancer. April 1, 2005: Vol 103, No. 7, pg 1457-1467.

<sup>c</sup> Classifications are shown for invasive cases only. For ICCC groups and subgroups that include *in situ* behavior, only invasive cases are shown except as noted.

<sup>d</sup> The standard error is between 5 and 10 percentage points.

<sup>e</sup> The standard error is greater than 10 percentage points.

<sup>f</sup> Includes *in situ* urinary bladder tumors.

- Statistic could not be calculated due to fewer than 25 cases during the time period.  
Neoplasms are abbreviated as neo.

Table 29.7  
U.S. Childhood Cancer Survivors at January 1, 2013  
Number of People Previously Diagnosed with Cancer as Children (Ages 0-19 Years) in the United States and Alive January 1, 2013  
By International Classification of Childhood Cancer (ICCC)<sup>a</sup> Selected Group and Subgroup, Age Group, and Sex

Site	Sex	Complete Prevalence Counts by Age at Prevalence							All Ages		
		0-19	20-29	30-39	40-49	50-59	60+	All Ages	Diagnosed between 1975-2012	Diagnosed before 1975	% <sup>b</sup>
									Count	Count	
All Sites	Both	116,243	101,788	68,311	55,703	43,495	22,743	408,283	337,415	70,868	17
	Male	61,956	53,753	33,848	25,551	18,225	11,361	204,694	173,596	31,098	15
	Female <sup>c</sup>	54,287	48,035	34,463	30,152	25,270	11,382	203,589	163,819	39,770	20
I Leukemia	Both	36,587	22,644	13,340	6,296	2,239	344	81,450	77,160	4,290	5
	Male	19,999	12,220	6,702	3,312	1,060	146	43,439	41,538	1,901	4
	Female	16,588	10,424	6,638	2,984	1,179	198	38,011	35,622	2,389	6
Acute lymphocytic leukemia <sup>d</sup>	Both	30,608	18,643	11,279	5,559	1,097	17	67,203	64,006	3,197	5
	Male	16,636	10,245	5,795	3,154	595	9	36,434	34,769	1,665	5
	Female	13,972	8,398	5,484	2,405	502	8	30,769	29,237	1,532	5
I(b) Acute myeloid leukemia	Both	4,292	2,704	1,270	963	823	455	10,507	8,912	1,595	15
	Male	2,282	1,282	540	441	417	239	5,201	4,397	804	15
	Female	2,010	1,422	730	522	406	216	5,306	4,515	791	15
II(a) Hodgkin lymphoma	Both	4,774	9,382	8,295	7,623	5,649	1,885	37,608	32,457	5,151	14
	Male	2,624	4,830	4,124	3,814	2,749	971	19,112	16,363	2,749	14
	Female	2,150	4,552	4,171	3,809	2,900	914	18,496	16,094	2,402	13
II(b,c,e) Non-Hodgkin lymphoma	Both	6,877	7,834	5,035	3,426	2,042	1,400	26,614	23,175	3,439	13
	Male	4,714	5,103	3,422	2,218	1,078	801	17,336	15,477	1,859	11
	Female	2,163	2,731	1,613	1,208	964	599	9,278	7,698	1,580	17
III CNS and misc intracranial & intraspinal neoplasms	Both	21,219	15,694	9,853	8,337	5,871	2,285	63,259	52,621	10,638	17
	Male	11,405	8,694	5,393	4,169	2,651	1,002	33,314	28,499	4,815	14
	Female	9,814	7,000	4,460	4,168	3,220	1,283	29,945	24,122	5,823	19
IV Neuroblastoma & other peripheral nervous cell tumor	Both	9,783	4,201	2,475	1,870	1,586	1,082	20,997	16,752	4,245	20
	Male	4,996	2,235	1,147	607	551	245	9,781	8,476	1,305	13
	Female	4,787	1,966	1,328	1,263	1,035	837	11,216	8,276	2,940	26
VI Renal tumors	Both	7,533	5,053	3,717	4,450	2,981	1,145	24,879	16,944	7,935	32
	Male	3,595	2,434	1,630	2,506	1,619	662	12,446	7,910	4,536	36
	Female	3,938	2,619	2,087	1,944	1,362	483	12,433	9,034	3,399	27
VIII Malignant bone tumors	Both	3,657	4,481	3,333	2,508	2,624	1,183	17,786	14,327	3,459	19
	Male	2,194	2,606	1,773	1,337	1,146	620	9,676	8,087	1,589	16
	Female	1,463	1,875	1,560	1,171	1,478	563	8,110	6,240	1,870	23
VIII(a) Osteosarcoma	Both	1,966	2,435	1,754	1,364	1,280	897	9,696	7,729	1,967	20
	Male	1,077	1,343	968	714	565	396	5,063	4,196	867	17
	Female	889	1,092	786	650	715	501	4,633	3,533	1,100	24
VIII(c) Ewing tumor & related sarcomas of bone	Both	1,339	1,476	1,053	714	435	220	5,237	4,648	589	11
	Male	891	896	499	352	206	90	2,934	2,693	241	8
	Female	448	580	554	362	229	130	2,303	1,955	348	15
IX Soft tissue & other extraosseous sarcomas	Both	7,120	7,147	4,601	4,616	4,649	5,214	33,347	23,009	10,338	31
	Male	3,886	4,019	2,240	2,347	2,244	2,914	17,650	12,245	5,405	31
	Female	3,234	3,128	2,361	2,269	2,405	2,300	15,697	10,764	4,933	31
X Germ cell & trophoblastic tumors & neoplasms of gonads	Both	5,185	8,402	5,693	6,084	6,790	7,575	39,729	26,146	13,583	34
	Male	2,664	5,501	3,523	3,297	3,362	3,526	21,873	15,467	6,406	29
	Female	2,521	2,901	2,170	2,787	3,428	4,049	17,856	10,679	7,177	40

<sup>a</sup> International Classification of Childhood Cancer is based on ICD-O-3. Steliarova-Foucher E, Stiller C, Lacour B, Kaatsch P. International Classification of Childhood Cancer, Third Edition. Cancer. April 1, 2005; Vol 103, No. 7, pg 1457-1467.

<sup>b</sup> Percent diagnosed before 1975 of all ages complete prevalence counts.

<sup>c</sup> All sites females excludes breast cancer.

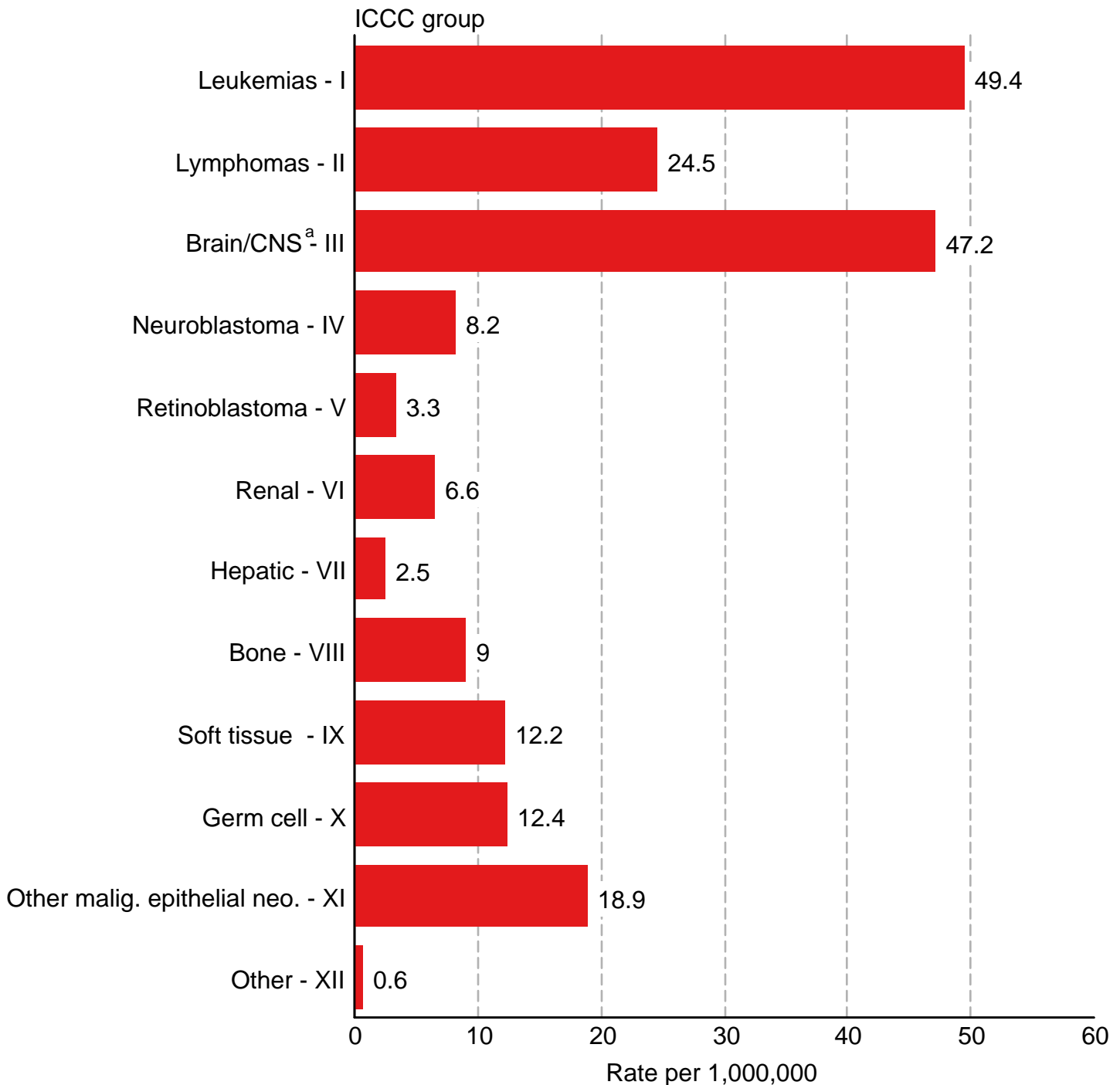
<sup>d</sup> SEER site recode Acute Lymphocytic Leukemia was used instead of the ICCC classification lymphocytic leukemia (Ia) because of statistical modeling requirements.

For more information regarding the modeling of the prevalence estimates, see Mariotto et al. Long-Term Survivors of Childhood Cancers in the United States. Cancer Epidemiol Biomarkers Prev 2009, page 1034.



Figure 29.1

## Childhood Cancer : SEER Incidence Rates 2009-2013 by ICCC Group (includes myelodysplastic syndromes and Group III benign brain) Under 20 Years of Age, Both Sexes, All Races



Source: 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).

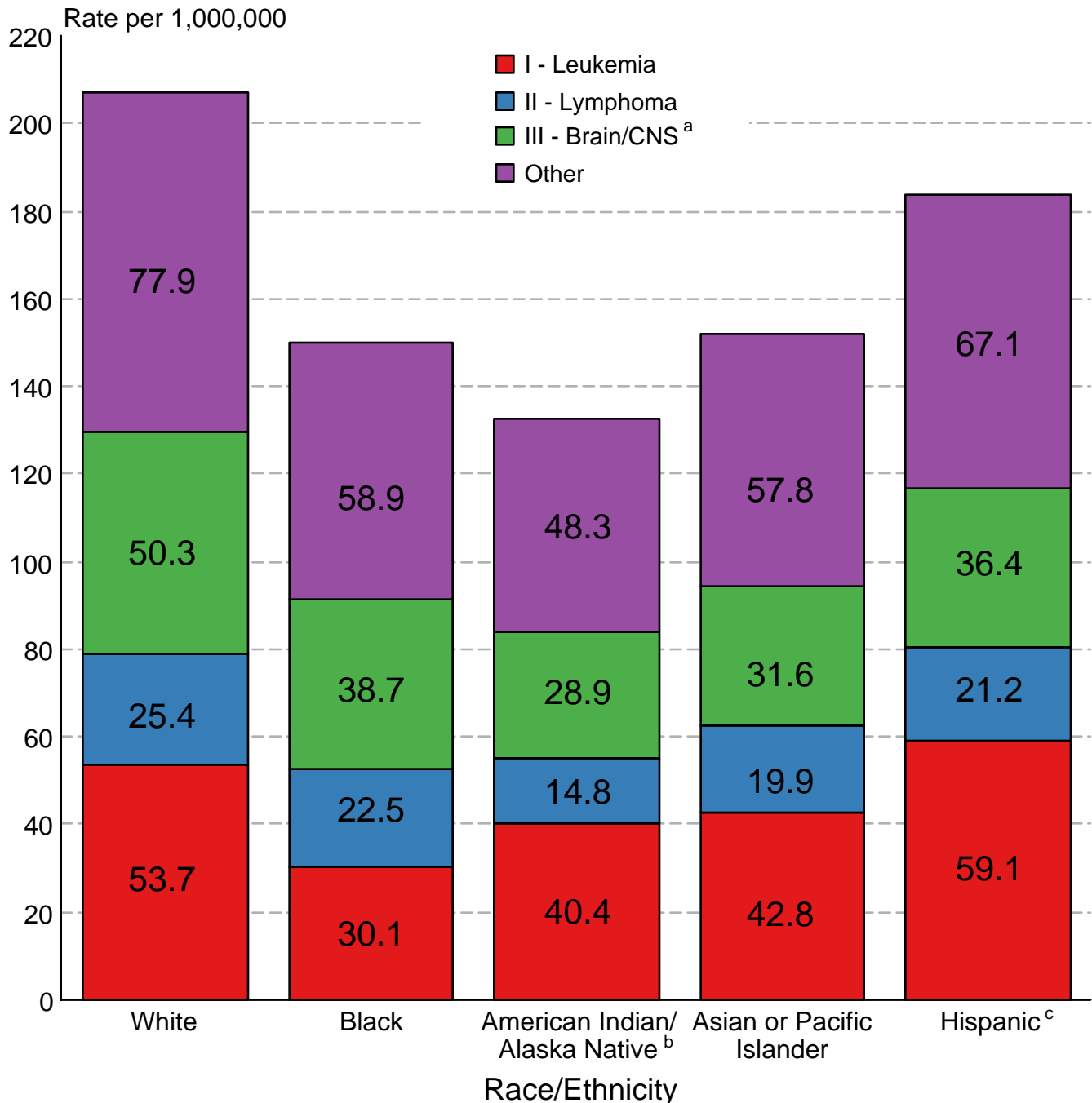
Rates are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

International Classification of Childhood Cancer is based on ICD-O-3. Steliarova-Foucher E, Stiller C, Lacour B, Kaatsch P. International Classification of Childhood Cancer, Third Edition. Cancer. April 1, 2005; Vol 103, No. 7, pg 1457-1467.

<sup>a</sup> Rate for Group III (Brain/CNS) includes benign brain tumors.

Figure 29.2

## Childhood Cancer: SEER Incidence Rates 2009- 2013 by ICCC Group and Race/Ethnicity (includes myelodysplastic syndromes and Group III benign brain) Both Sexes, Under 20 Years of Age



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

International Classification of Childhood Cancer is based on ICD-O-3. Steliarova-Foucher E, Stiller C, Lacour B, Kaatsch P. International Classification of Childhood Cancer, Third Edition. Cancer. April 1, 2005; Vol 103, No. 7, pg 1457-1467.

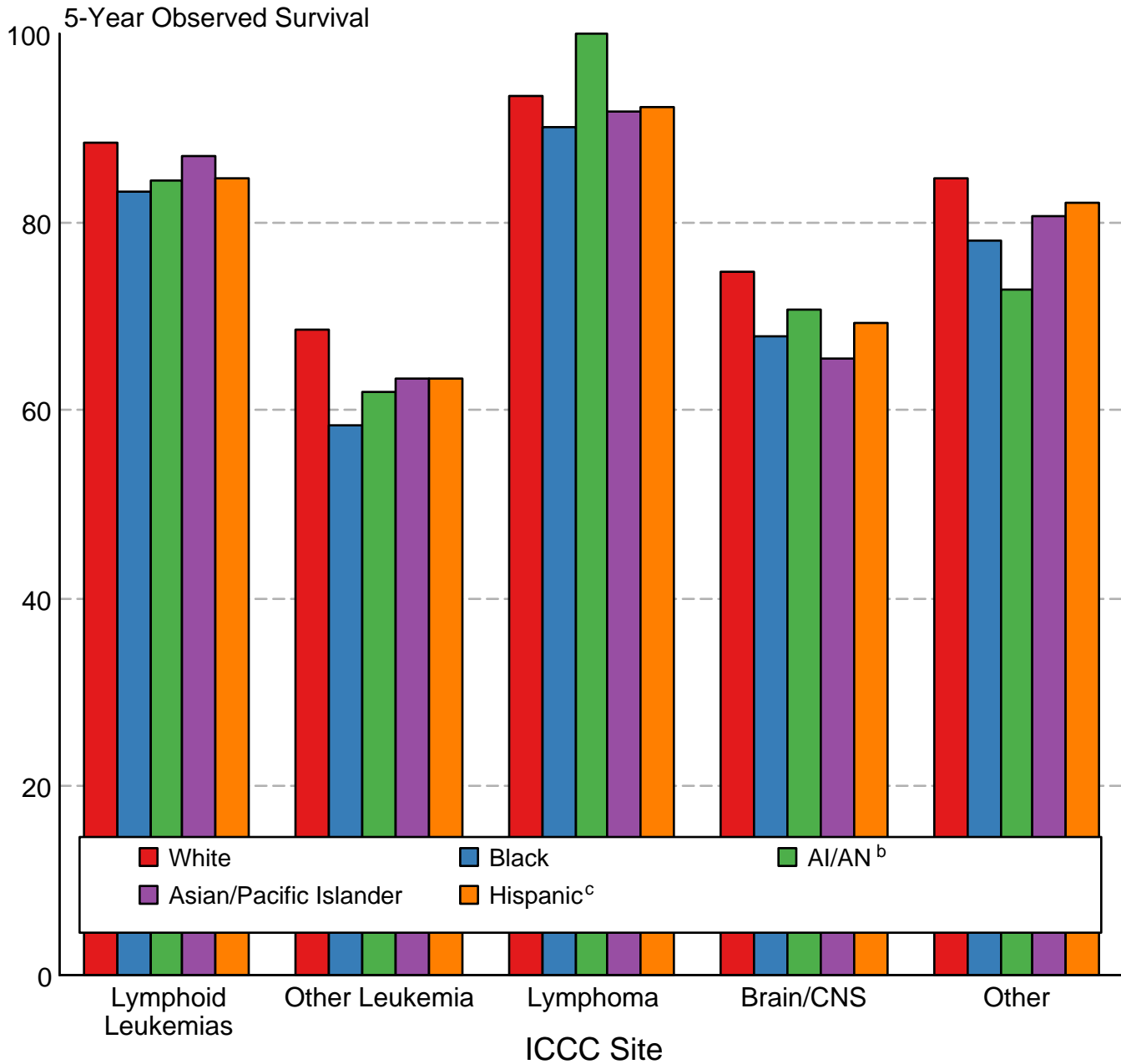
<sup>a</sup> Rate for Group III (Brain/CNS) includes benign brain tumors.

<sup>b</sup> Incidence rates for American Indian/Alaska Native are based on the CHSDA(Contract Health Service Delivery Area) counties.

<sup>c</sup> 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.

Figure 29.3

## Childhood Cancer 5-Year Observed Survival (%) by ICCC Group<sup>a</sup> and Race/Ethnicity Both Sexes, Under 20 Years of Age, 2006-2012



Source: 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).

International Classification of Childhood Cancer is based on ICD-O-3. Steliarova-Foucher E, Stiller C, Lacour B, Kaatsch P. International Classification of Childhood Cancer, Third Edition. Cancer. April 1, 2005; Vol 103, No. 7, pg 1457-1467.

<sup>a</sup> Excludes myelodysplastic syndromes (MDS) and benign brain tumors.

<sup>b</sup> American Indian/Alaska Native. Survival data for American Indian/Alaska Native are based on the CHSDA (Contract Health Service Delivery Area) counties.

<sup>c</sup> Hispanic is not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives. Survival data for Hispanics are based on NHIA and excludes cases from the Alaska Native Registry.