

Table 29.1

Age-Adjusted and Age-Specific SEER Cancer Incidence Rates, 2011-2015<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

ICCC Group and Subgroup	0-14	0-19	<1	1-4	5-9	10-14	15-19
All ICCC Groups Combined							
Excluding Group III benign brain/CNS tumors	165.6	183.2	240.2	219.7	129.7	146.2	235.6
Including Group III benign brain/CNS tumors <sup>d</sup>	179.2	202.0	251.0	228.6	142.3	164.8	269.8
I Leukemia (includes myelodysplastic syndromes)	54.7	49.9	51.8	93.8	44.9	35.3	35.7
I(a) Lymphoid leukemia	41.8	35.9	20.9	78.5	36.7	23.1	18.5
I(b) Acute myeloid leukemia	8.3	8.7	18.8	10.8	5.0	7.6	9.9
I(c) Chronic myeloproliferative diseases	1.4	2.1	-	0.7	1.0	2.1	4.3
I(d) Myelodysplastic syndrome and other myeloproliferative	1.4	1.4	6.4	1.7	0.6	1.1	1.4
I(e) Unspecified and other specified leukemias	1.8	1.7	3.5	2.2	1.6	1.3	1.6
II Lymphomas and reticuloendothelial neoplasms	16.5	25.0	-	8.5	16.1	25.8	50.2
II(a) Hodgkin lymphoma	5.5	11.7	-	0.8	3.9	11.6	30.1
II(b) Non-Hodgkin lymphoma (except Burkitt lymphoma)	8.3	10.4	-	6.0	8.2	11.3	16.7
II(c) Burkitt lymphoma	2.4	2.5	-	1.4	3.7	2.4	2.6
II(d) Miscellaneous lymphoreticular neoplasms	-	0.2	-	-	-	-	-
II(e) Unspecified lymphomas	0.2	0.3	-	-	-	-	0.7
III CNS and misc intracranial and intraspinal neoplasms <sup>d</sup>	46.5	49.4	41.9	50.1	46.8	44.4	58.1
III(a) Ependymomas and choroid plexus tumor	4.3	3.9	10.1	6.7	2.8	2.9	2.8
III(b) Astrocytoma	17.4	16.7	12.6	20.3	18.1	15.4	14.5
III(c) Intracranial and intraspinal embryonal tumors	7.2	6.1	10.4	10.5	7.6	3.8	2.9
III(d) Other gliomas	5.6	5.3	-	5.8	6.9	4.9	4.4
III(e) Other specified intracranial/intraspinal neoplasms	10.4	15.7	4.2	5.6	10.0	15.7	31.5
III(f) Unspecified intracranial and intraspinal neoplasms	1.5	1.7	-	1.2	1.4	1.7	2.0
IV Neuroblastoma and other peripheral nervous cell tumor	10.7	8.3	52.7	21.7	4.0	1.3	0.9
IV(a) Neuroblastoma and ganglioneuroblastoma	10.5	8.0	52.7	21.5	3.8	0.9	0.5
IV(b) Other peripheral nervous cell tumors	0.2	0.3	-	-	-	-	-
V Retinoblastoma	4.5	3.4	32.2	8.8	-	-	-
VI Renal tumors	8.7	7.1	15.9	19.9	6.1	1.4	2.3
VI(a) Nephroblastoma and other nonepithelial renal tumor	8.3	6.3	15.7	19.7	5.9	0.7	-
VI(b) Renal carcinoma	0.3	0.7	-	-	-	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, 2011-2015<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	3.2	2.6	12.7	7.1	0.8	0.9	0.9
VII(a) Hepatoblastoma	2.8	2.1	12.7	6.9	-	-	-
VII(b) Hepatic carcinoma	0.4	0.5	-	-	-	0.7	0.9
VII(c) Unspecified malignant hepatic tumors	-	-	-	-	-	-	-
VIII Malignant bone tumors	7.8	9.5	-	2.1	6.5	14.9	14.5
VIII(a) Osteosarcoma	4.4	5.4	-	-	3.6	8.9	8.6
VIII(b) Chondrosarcoma	0.2	0.3	-	-	-	-	0.7
VIII(c) Ewing tumor and related sarcomas of bone	2.8	3.1	-	1.3	2.4	4.8	4.0
VIII(d) Other specified malignant bone tumors	0.3	0.4	-	-	-	-	0.7
VIII(e) Unspecified malignant bone tumors	-	0.2	-	-	-	-	0.6
IX Soft tissue and other extraosseous sarcomas	11.3	12.5	16.6	10.9	8.9	13.1	16.1
IX(a) Rhabdomyosarcoma	5.1	4.6	4.1	7.7	4.6	3.8	3.4
IX(b) Fibrosarcoma, peripheral nerve & other fibrous	1.1	1.3	4.6	-	0.8	1.2	1.9
IX(c) Kaposi sarcoma	-	-	-	-	-	-	-
IX(d) Other specified soft tissue sarcomas	4.0	5.2	5.3	1.9	2.9	6.3	8.8
IX(e) Unspecified soft-tissue sarcomas	1.1	1.3	-	0.8	0.6	1.7	1.9
X Germ cell & trophoblastic tumors & neoplasms of gonads	5.5	12.1	19.8	3.0	2.6	7.6	31.8
X(a) Intracranial and intraspinal germ-cell tumors	2.2	2.3	4.1	0.8	1.9	3.2	2.8
X(b) Extracranial & extragonadal germ cell tumors	1.4	1.5	13.8	1.4	-	-	1.6
X(c) Malignant gonadal germ cell tumors	2.2	8.0	3.4	1.4	1.0	3.8	25.1
X(d) Gonadal carcinomas	-	0.5	-	-	-	-	1.5
X(e) Other and unspecified malignant gonadal tumors	-	0.3	-	-	-	-	0.9
XI Other malignant epithelial neoplasms and melanomas <sup>d</sup>	9.1	21.6	-	2.0	5.2	19.7	58.5
XI(a) Adrenocortical carcinoma	0.3	0.3	-	-	-	-	-
XI(b) Thyroid carcinoma	3.8	10.5	-	-	1.6	9.3	30.6
XI(c) Nasopharyngeal carcinoma	0.3	0.6	-	-	-	0.6	1.5
XI(d) Malignant melanoma	2.1	4.2	-	1.2	1.8	3.2	10.4
XI(e) Skin carcinoma	-	-	-	-	-	-	-
XI(f) Other and unspecified carcinomas <sup>d</sup>	2.7	5.9	-	-	1.4	6.2	15.5
XII Other and unspecified malignant neoplasms	0.6	0.6	-	0.8	-	-	0.8
XII(a) Other specified malignant tumors	0.4	0.4	-	-	-	-	0.5
XII(b) Other unspecified malignant tumors	0.2	0.2	-	-	-	-	-
Not classified by ICC	0.3	0.3	-	-	-	-	-

<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>1975-2015</u>	<u>1975-1985</u>	<u>1986-1995</u>	<u>1996-2005</u>	<u>2006-2015</u>
All ICCC Groups Combined	161.9	145.1	158.8	165.6	177.2
I Leukemia	39.5	35.3	37.9	41.5	42.9
I(a) Lymphoid leukemia	29.5	26.0	28.5	31.2	32.1
I(b) Acute myeloid leukemia	7.2	6.1	6.7	8.1	7.9
II Lymphomas and reticuloendothelial neoplasms	24.9	24.6	24.4	23.7	26.9
II(a) Hodgkin lymphoma	13.1	14.4	13.3	11.7	13.0
II(b,c,e) Non-Hodgkin lymphoma	11.3	9.5	10.5	11.4	13.6
III CNS & misc intracranial & intraspinal neoplasms	28.7	23.4	30.1	29.7	31.6
III(a) Ependymomas and choroid plexus tumor	2.4	1.8	2.6	2.5	2.8
III(b) Astrocytoma	14.6	11.8	15.7	14.8	16.1
III(c) Intracranial and intraspinal embryonal tumors	5.6	4.4	5.7	6.2	6.1
III(d) Other gliomas	5.2	4.5	5.1	5.5	5.7
IV Neuroblastoma and other peripheral nervous cell tumors	8.5	8.2	8.3	8.8	8.8
IV(a) Neuroblastoma and ganglioneuroblastoma	8.3	8.0	8.0	8.6	8.5
V Retinoblastoma	3.1	2.8	3.2	3.2	3.0
VI Renal tumors	6.7	6.5	6.8	6.8	6.7
VI(a) Nephroblastoma and other nonepithelial renal tumor	6.2	6.1	6.4	6.2	6.0
VII Hepatic tumors	2.0	1.4	1.5	2.3	2.6
VII(a) Hepatoblastoma	1.4	0.9	1.1	1.7	1.7
VIII Malignant bone tumors	8.7	8.4	9.0	8.4	9.1
VIII(a) Osteosarcoma	4.8	4.3	5.0	4.7	5.1
VIII(c) Ewing tumor and related sarcomas of bone	3.0	3.1	2.9	2.8	3.1
IX Soft tissue and other extraosseous sarcomas	11.6	10.5	11.0	12.5	12.5
IX(a) Rhabdomyosarcoma	4.5	4.1	4.8	4.7	4.5
X Germ cell & trophoblastic tumors & neoplasms of gonads	10.7	9.3	10.8	11.1	11.6
X(a) Intracranial and intraspinal germ-cell tumor	1.5	0.9	1.5	1.9	1.7
X(c) Malignant gonadal germ cell tumor	6.8	5.9	6.7	7.1	7.6
XI Other malignant epithelial neoplasms and melanomas <sup>d</sup>	16.8	13.9	15.1	17.0	21.1
XI(b) Thyroid carcinoma	6.5	5.0	5.3	6.0	9.7
XI(d) Malignant melanoma	5.1	4.1	5.1	6.0	5.2

- <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, 1975-2015<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 1975-2015	APC 1975-2015	APC 1975-1994	APC 1995-2015	% Change 1975-2015	APC 1975-2015	APC 1975-1994	APC 1995-2015
All ICCC Groups Combined	46.3	0.6*	0.8*	0.6*	47.8	0.7*	0.8*	0.8*
I Leukemia	46.8	0.7*	0.7*	0.5	45.7	0.7*	0.7*	0.5*
I(a) Lymphoid leukemia	54.6	0.7*	0.9*	0.3	58.7	0.7*	0.9*	0.4
I(b) Acute myeloid leukemia	70.1	1.0*	1.2	0.3	41.9	1.0*	1.1	0.1
II Lymphomas and reticuloendothelial neo.	-2.4	0.3	-0.8*	1.3* <sup>#</sup>	10.3	0.2*	-0.1	1.0* <sup>#</sup>
II(a) Hodgkin lymphoma	-7.7	-0.5*	-1.7*	0.4 <sup>#</sup>	-9.4	-0.5*	-0.8	0.3 <sup>@</sup>
II(b,c,e) Non-Hodgkin lymphoma	8.5	1.0*	0.0	2.2* <sup>#</sup>	45.4	1.2*	0.9*	1.9* <sup>@</sup>
III CNS & misc intracranial & intraspinal neo.	72.1	0.9*	2.1*	0.5 <sup>#</sup>	71.8	0.8*	1.8*	0.7* <sup>#</sup>
III(a) Ependymomas and choroid plexus tumors	-	-	-	1.3*	-	-	-	1.5*
III(b) Astrocytoma	98.8	1.0*	2.8*	0.9 <sup>#</sup>	89.1	0.9*	2.2*	1.1* <sup>@</sup>
III(c) Intracranial and intraspinal embryonal tum.	168.3	0.8*	1.8*	-0.6 <sup>#</sup>	158.8	0.9*	2.0*	-0.6 <sup>#</sup>
III(d) Other gliomas	0.1	0.5	0.3	0.6	8.7	0.7*	0.7	0.4
IV Neuroblastoma and other peripheral nervous cell tumors	17.6	0.3	0.5	0.2	18.9	0.3	0.4	0.3
IV(a) Neuroblastoma and ganglioneuroblastoma	15.9	0.4	0.4	0.3	15.7	0.3	0.3	0.3
V Retinoblastoma	28.9	0.2	1.3	-0.5 <sup>@</sup>	33.2	0.2	1.4	-0.4 <sup>@</sup>
VI Renal tumors	45.9	0.0	0.6	-0.2	47.7	0.1	0.7	-0.1
VI(a) Nephroblastoma and other nonepithelial renal tumors	52.2	0.0	0.4	-0.2	52.2	0.0	0.5	-0.2
VII Hepatic tumors	-	-	-	-	-	-	-	-
VII(a) Hepatoblastoma	-	-	-	-	-	-	-	-
VIII Malignant bone tumors	72.9	0.3	0.9	1.2	45.0	0.3	1.0*	0.7
VIII(a) Osteosarcoma	-	-	-	1.4	110.7	0.6*	1.7*	0.8
VIII(c) Ewing tum. and related sarcomas of bone	27.4	-	-	-	15.6	-0.1	0.3	0.8
IX Soft tissue and other extrasosseous sarcomas	46.0	0.7*	0.7	0.5	55.0	0.6*	0.5	0.1
IX(a) Rhabdomyosarcoma	40.9	0.2	1.2	0.1	52.5	0.2	1.2	-0.2
X Germ cell & trophoblastic tum. & neo. of gonads	46.0	0.9*	1.4	0.1	34.3	0.7*	1.5*	0.6
X(a) Intracranial and intraspinal germ-cell tum.	-	-	-	-	-	-	-	-
X(c) Malignant gonadal germ cell tumors	-18.0	-	-	-	53.2	0.8*	1.3*	0.6
XI Other malignant epithelial neo. and melanomas <sup>d</sup>	113.9	1.6*	0.4	3.0* <sup>#</sup>	104.5	1.5*	0.9*	2.6* <sup>#</sup>
XI(b) Thyroid carcinoma	171.4	-	-	-	181.4	2.4*	0.8	4.8* <sup>#</sup>
XI(d) Malignant melanoma	-	-	-	-	58.9	0.8*	1.4	-1.0 <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 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.

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

# The APC for 1995-2015 is significantly different from the APC for 1975-1994 (p<.05).

@ The APC for 1995-2015 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, 1975-2015<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 1975-2015	APC 1975-2015	APC 1975-1994	APC 1995-2015	% Change 1975-2015	APC 1975-2015	APC 1975-1994	APC 1995-2015
All ICCC Groups Combined	44.8	0.6*	1.0*	0.5*	46.6	0.6*	1.0*	0.6*
I Leukemia	35.8	0.7*	0.8*	0.4	29.3	0.6*	0.6*	0.3
I(a) Lymphoid leukemia	49.6	0.7*	1.1*	0.2	48.2	0.6*	1.1*	0.2
I(b) Acute myeloid leukemia	75.8	-	-	0.1	29.7	1.0*	0.5	-0.4
II Lymphomas and reticuloendothelial neo.	2.1	0.2	-0.9	1.6*#	17.4	0.3	-0.2	1.5*#
II(a) Hodgkin lymphoma	-3.5	-	-	1.3	-8.1	-0.4*	-1.1	1.0#
II(b,c,e) Non-Hodgkin lymphoma	10.3	0.7*	-0.1	2.1*#	52.2	1.0*	0.9	2.0*
III CNS & misc intracranial & intraspinal neo.	85.4	0.7*	2.5*	0.2#	71.1	0.7*	2.2*	0.3#
III(a) Ependymomas and choroid plexus tumors	-	-	-	-	-	-	-	-
III(b) Astrocytoma	88.5	0.8*	3.0*	0.6#	66.3	0.6*	2.3*	0.7#
III(c) Intracranial and intraspinal embryonal tum.	-	-	-	-0.8	-	-	-	-0.8
III(d) Other gliomas	10.0	-	-	-	15.9	-	-	0.1
IV Neuroblastoma and other peripheral nervous cell tumors	49.1	0.3	0.8	-0.1	44.0	0.3	0.9	0.0
IV(a) Neuroblastoma and ganglioneuroblastoma	45.5	0.3	0.7	-0.1	40.5	0.3	0.8	0.0
V Retinoblastoma	34.3	-	-	-	34.3	-	-	-
VI Renal tumors	18.3	-0.1	1.4	-0.4	7.2	0.0	1.2	-0.5
VI(a) Nephroblastoma and other nonepithelial renal tumors	33.3	-0.1	1.4	-0.4	33.3	-0.1	1.3	-0.4
VII Hepatic tumors	-	-	-	-	-	-	-	-
VII(a) Hepatoblastoma	-	-	-	-	-	-	-	-
VIII Malignant bone tumors	74.0	0.6	1.3	0.6	67.9	0.5	1.7*	0.4
VIII(a) Osteosarcoma	-	-	-	-	-	-	-	0.2
VIII(c) Ewing tum. and related sarcomas of bone	-	-	-	-	-2.3	-	-	-
IX Soft tissue and other extrasosseous sarcomas	84.5	0.8*	0.8	1.1*	77.3	0.7*	0.8	0.5
IX(a) Rhabdomyosarcoma	47.1	-	-	0.0	47.7	-	-	0.0
X Germ cell & trophoblastic tum. & neo. of gonads	11.4	-	-	-	87.6	1.0*	1.7*	0.4
X(a) Intracranial and intraspinal germ-cell tum.	-	-	-	-	-	-	-	-
X(c) Malignant gonadal germ cell tum. (testis)	-	-	-	-	95.4	1.0*	1.1	0.8
XI Other malignant epithelial neo. and melanomas <sup>d</sup>	85.6	-	-	-	92.7	1.4*	0.9	2.1*
XI(b) Thyroid carcinoma	-	-	-	-	-	-	-	-
XI(d) Malignant melanoma	-	-	-	-	36.0	-	-	-

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.

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

Table 29.5

Age-Adjusted SEER Cancer Incidence Trends, 1975-2015<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 1975-2015	APC 1975-2015	APC 1975-1994	APC 1995-2015	% Change 1975-2015	APC 1975-2015	APC 1975-1994	APC 1995-2015
All ICCC Groups Combined	48.2	0.7*	0.6*	0.7*	49.1	0.7*	0.7*	1.0*
I Leukemia	64.0	0.6*	0.7	0.6*	71.2	0.7*	0.9	0.8*
I(a) Lymphoid leukemia	62.0	0.7*	0.7	0.5	74.0	0.8*	0.8	0.6
I(b) Acute myeloid leukemia	62.8	0.7*	1.2	0.5	57.8	0.9*	1.8*	0.8
II Lymphomas and reticuloendothelial neo.	-11.3	0.4	-1.0	0.7 <sup>@</sup>	-0.4	0.2	0.1	0.3
II(a) Hodgkin lymphoma	-12.9	-	-	-	-11.2	-0.5*	-0.4	-0.4
II(b,c,e) Non-Hodgkin lymphoma	3.2	-	-	-	31.2	1.6*	1.0	1.7
III CNS & misc intracranial & intraspinal neo.	59.9	1.0*	1.5*	0.9	72.4	1.0*	1.3*	1.2*
III(a) Ependymomas and choroid plexus tumors	-	-	-	-	-	-	-	-
III(b) Astrocytoma	108.8	1.2*	2.6*	1.2	114.4	1.1*	2.1*	1.7*
III(c) Intracranial and intraspinal embryonal tum.	-	-	-	-	-	-	-	-0.3
III(d) Other gliomas	-8.9	-	-	-	1.1	-	-	-
IV Neuroblastoma and other peripheral nervous cell tumors	-9.4	0.4	0.0	0.3	-3.2	0.3	-0.2	0.4
IV(a) Neuroblastoma and ganglioneuroblastoma	-9.4	0.4	-0.1	0.4	-6.3	0.3	-0.3	0.4
V Retinoblastoma	-	-	-	-	-	-	-	-
VI Renal tumors	77.3	0.1	-0.2	0.1	95.9	0.2	0.3	0.3
VI(a) Nephroblastoma and other nonepithelial renal tumors	71.3	0.0	-0.4	0.1	71.3	0.0	-0.2	0.0
VII Hepatic tumors	-	-	-	-	-	-	-	-
VII(a) Hepatoblastoma	-	-	-	-	-	-	-	-
VIII Malignant bone tumors	71.4	-	0.7	-	16.6	-0.1	0.1	1.1
VIII(a) Osteosarcoma	-	-	-	-	24.4	0.3	0.6	1.8
VIII(c) Ewing tum. and related sarcomas of bone	-	-	-	-	-	-	-	-
IX Soft tissue and other extrasosseous sarcomas	2.8	0.4	0.5	-0.1	29.7	0.4	0.2	-0.5
IX(a) Rhabdomyosarcoma	-	-	-	-	57.8	-	-	-
X Germ cell & trophoblastic tum. & neo. of gonads	81.2	-	-	1.7*	-9.9	0.3	1.2	1.1
X(a) Intracranial and intraspinal germ-cell tum.	-	-	-	-	-	-	-	-
X(c) Malignant gonadal germ cell tum. (ovary)	-	-	-	-	6.0	-	-	0.2
XI Other malignant epithelial neo. and melanomas <sup>d</sup>	135.0	-	-	2.5*	112.1	1.5*	0.8	2.8* <sup>#</sup>
XI(b) Thyroid carcinoma	-	-	-	-	203.0	2.5*	1.4	4.9* <sup>#</sup>
XI(d) Malignant melanoma	-	-	-	-	84.3	-	-	-1.2

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 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.

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

# The APC for 1995-2015 is significantly different from the APC for 1975-1994 (p<.05).

@ The APC for 1995-2015 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), 2008-2014<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	83.8	82.7	85.0	78.4	85.5	82.8	82.9	84.6	83.4
I Leukemia	83.9	83.7	84.2	60.4	91.1	90.1	78.9	72.1	86.5
I(a) Lymphoid leukemia	88.5	88.1	89.0	57.5	94.5	92.8	83.4	73.8	90.8
I(b) Acute myeloid leukemia	65.8	65.3	66.3	63.0	70.9	70.4	60.6	64.2	66.4
II Lymphomas and reticuloendothelial neo.	93.3	93.1	93.6	84.1 <sup>d</sup>	88.7	94.7	93.4	93.5	93.0
II(a) Hodgkin lymphoma	96.7	96.5	96.8	-	94.4 <sup>d</sup>	99.4	97.4	96.1	97.8
II(b,c,e) Non-Hodgkin lymphoma	89.8	90.2	88.8	-	87.4	92.8	89.7	89.1	90.2
III CNS & misc intracranial & intraspinal neo.	73.9	73.2	74.6	61.3	74.5	68.9	79.1	77.9	72.9
III(a) Ependymomas and choroid plexus tumor	80.2	80.4	80.1	74.3 <sup>d</sup>	76.9	79.5 <sup>d</sup>	86.9 <sup>d</sup>	89.3	78.5
III(b) Astrocytoma	81.1	80.3	82.0	85.7	90.2	77.3	80.4	75.2	82.6
III(c) Intracranial and intraspinal embryonal tumors	63.5	62.1	65.6	28.4 <sup>d</sup>	57.7	70.5	77.3	71.2	62.6
III(d) Other gliomas	60.7	64.2	57.0	-	53.0	42.9	73.4	83.0	54.8
IV Neuroblastoma and other peripheral nervous cell tumors	79.3	77.7	81.0	91.1	75.3	73.6	83.1 <sup>d</sup>	54.1 <sup>d</sup>	80.2
IV(a) Neuroblastoma and ganglioneuroblastoma	79.3	77.7	81.0	91.1	75.4	72.8	83.6 <sup>d</sup>	-	80.2
V Retinoblastoma	95.2	94.4	95.9	96.7	94.1	-	-	-	95.2
VI Renal tumors	90.5	87.9	92.9	91.6	93.4	89.3	85.1 <sup>d</sup>	73.8 <sup>d</sup>	91.9
VI(a) Nephroblastoma and other nonepithelial renal tumor	92.5	91.0	93.8	91.5	93.6	91.0	88.8 <sup>d</sup>	-	92.7
VII Hepatic tumors	77.3	76.3	78.7	90.1	82.0	63.0 <sup>d</sup>	61.0 <sup>d</sup>	52.4 <sup>d</sup>	80.4
VII(a) Hepatoblastoma	84.3	83.1	86.4	90.0	81.9	-	-	-	84.6
VIII Malignant bone tumors	72.0	71.4	72.9	-	79.7 <sup>d</sup>	74.2	73.0	69.3	73.8
VIII(a) Osteosarcoma	68.0	65.8	70.9	-	-	68.2	70.2	65.7	69.6
VIII(c) Ewing tumor and related sarcomas of bone	73.1	74.3	71.2	-	97.1	80.3 <sup>d</sup>	72.7	64.3	77.7
IX Soft tissue and other extraosseous sarcomas	72.3	69.7	75.4	65.9	78.0	77.8	73.4	67.1	75.0
IX(a) Rhabdomyosarcoma	65.5	65.6	65.4	68.0 <sup>d</sup>	73.5	77.5	58.2	46.2	70.3
X Germ cell & trophoblastic tumors & neo. of gonads	92.3	92.7	91.5	85.9	92.1	98.4	91.8	92.6	91.6
X(a) Intracranial and intraspinal germ-cell tumor	90.0	90.6	87.5	-	-	98.6	88.1	91.5	88.9
X(c) Malignant gonadal germ cell tumor	96.5	96.3	97.1	100.0	100.0	100.0	98.4	95.8	99.2
XI Other malignant epithelial neo. and melanomas <sup>f</sup>	92.5	88.5	94.4	-	92.1	92.9	93.1	92.5	92.7
XI(b) Thyroid carcinoma	99.3	99.6	99.2	-	-	100.0	99.7	99.2	99.7
XI(d) Malignant melanoma	94.5	92.8	95.8	-	88.5 <sup>d</sup>	96.5	95.5	94.9	94.0

<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). [Expected survival rates](#) are derived from life tables by socio-economic status, geography and race developed by the SEER program.

Based on follow-up of patients into 2015.

<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, 2015  
Number of People Previously Diagnosed with Cancer as Children (Ages 0-19 Years) in the United States and Alive January 1, 2015  
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 1975-2014	Diagnosed before 1975	% <sup>b</sup>
									Count	Count	
All Sites	Both	118,794	105,908	73,559	55,889	47,264	27,597	429,011	359,890	69,121	16
	Male	62,980	55,457	37,255	25,851	19,623	12,873	214,039	184,694	29,345	14
	Female <sup>c</sup>	55,814	50,451	36,304	30,038	27,641	14,724	214,972	175,196	39,776	19
I Leukemia	Both	37,132	24,147	14,674	7,679	2,946	610	87,188	82,665	4,523	5
	Male	20,467	12,874	7,665	3,826	1,367	257	46,456	44,517	1,939	4
	Female	16,665	11,273	7,009	3,853	1,579	353	40,732	38,148	2,584	6
Acute lymphocytic leukemia <sup>d</sup>	Both	30,930	19,847	12,308	6,920	1,723	72	71,800	68,421	3,379	5
	Male	16,869	10,804	6,519	3,651	882	40	38,765	37,057	1,708	4
	Female	14,061	9,043	5,789	3,269	841	32	33,035	31,364	1,671	5
I(b) Acute myeloid leukemia	Both	4,376	3,066	1,436	1,000	908	666	11,452	9,702	1,750	15
	Male	2,378	1,421	652	435	449	343	5,678	4,824	854	15
	Female	1,998	1,645	784	565	459	323	5,774	4,878	896	16
II(a) Hodgkin lymphoma	Both	4,117	8,971	8,026	7,328	5,929	2,520	36,891	31,977	4,914	13
	Male	2,501	5,138	4,090	3,863	2,978	1,345	19,915	17,181	2,734	14
	Female	1,616	3,833	3,936	3,465	2,951	1,175	16,976	14,796	2,180	13
II(b,c,e) Non-Hodgkin lymphoma	Both	7,518	8,001	5,347	3,819	2,235	1,822	28,742	25,159	3,583	12
	Male	5,152	5,219	3,625	2,520	1,195	1,032	18,743	16,797	1,946	10
	Female	2,366	2,782	1,722	1,299	1,040	790	9,999	8,362	1,637	16
III CNS and misc intracranial & intraspinal neoplasms	Both	21,894	16,337	10,766	8,121	6,679	3,001	66,798	56,217	10,581	16
	Male	11,528	8,972	5,921	4,146	3,063	1,396	35,026	30,180	4,846	14
	Female	10,366	7,365	4,845	3,975	3,616	1,605	31,772	26,037	5,735	18
IV Neuroblastoma & other peripheral nervous cell tumor	Both	9,926	4,479	2,791	1,885	1,719	1,415	22,215	17,854	4,361	20
	Male	4,965	2,333	1,319	736	594	323	10,270	8,942	1,328	13
	Female	4,961	2,146	1,472	1,149	1,125	1,092	11,945	8,912	3,033	25
VI Renal tumors	Both	7,805	5,187	4,043	4,189	3,620	1,699	26,543	18,194	8,349	31
	Male	3,719	2,524	1,849	2,231	1,979	989	13,291	8,551	4,740	36
	Female	4,086	2,663	2,194	1,958	1,641	710	13,252	9,643	3,609	27
VIII Malignant bone tumors	Both	3,972	4,707	3,504	2,534	2,640	1,694	19,051	15,499	3,552	19
	Male	2,171	2,783	1,946	1,324	1,238	823	10,285	8,661	1,624	16
	Female	1,801	1,924	1,558	1,210	1,402	871	8,766	6,838	1,928	22
VIII(a) Osteosarcoma	Both	2,120	2,597	1,787	1,421	1,250	1,219	10,394	8,363	2,031	20
	Male	1,039	1,448	1,009	739	586	539	5,360	4,474	886	17
	Female	1,081	1,149	778	682	664	680	5,034	3,889	1,145	23
VIII(c) Ewing tumor & related sarcomas of bone	Both	1,553	1,483	1,153	695	531	267	5,682	5,065	617	11
	Male	909	941	610	309	253	94	3,116	2,888	228	7
	Female	644	542	543	386	278	173	2,566	2,177	389	15
IX Soft tissue & other extraosseous sarcomas	Both	7,232	7,185	5,074	4,380	5,091	6,657	35,619	24,369	11,250	32
	Male	3,976	3,913	2,666	2,199	2,476	3,728	18,958	12,972	5,986	32
	Female	3,256	3,272	2,408	2,181	2,615	2,929	16,661	11,397	5,264	32
X Germ cell & trophoblastic tumors & neoplasms of gonads	Both	5,111	8,520	6,155	5,884	6,978	9,160	41,808	27,621	14,187	34
	Male	2,578	5,466	3,901	3,257	3,359	4,081	22,642	16,301	6,341	28
	Female	2,533	3,054	2,254	2,627	3,619	5,079	19,166	11,320	7,846	41

<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.

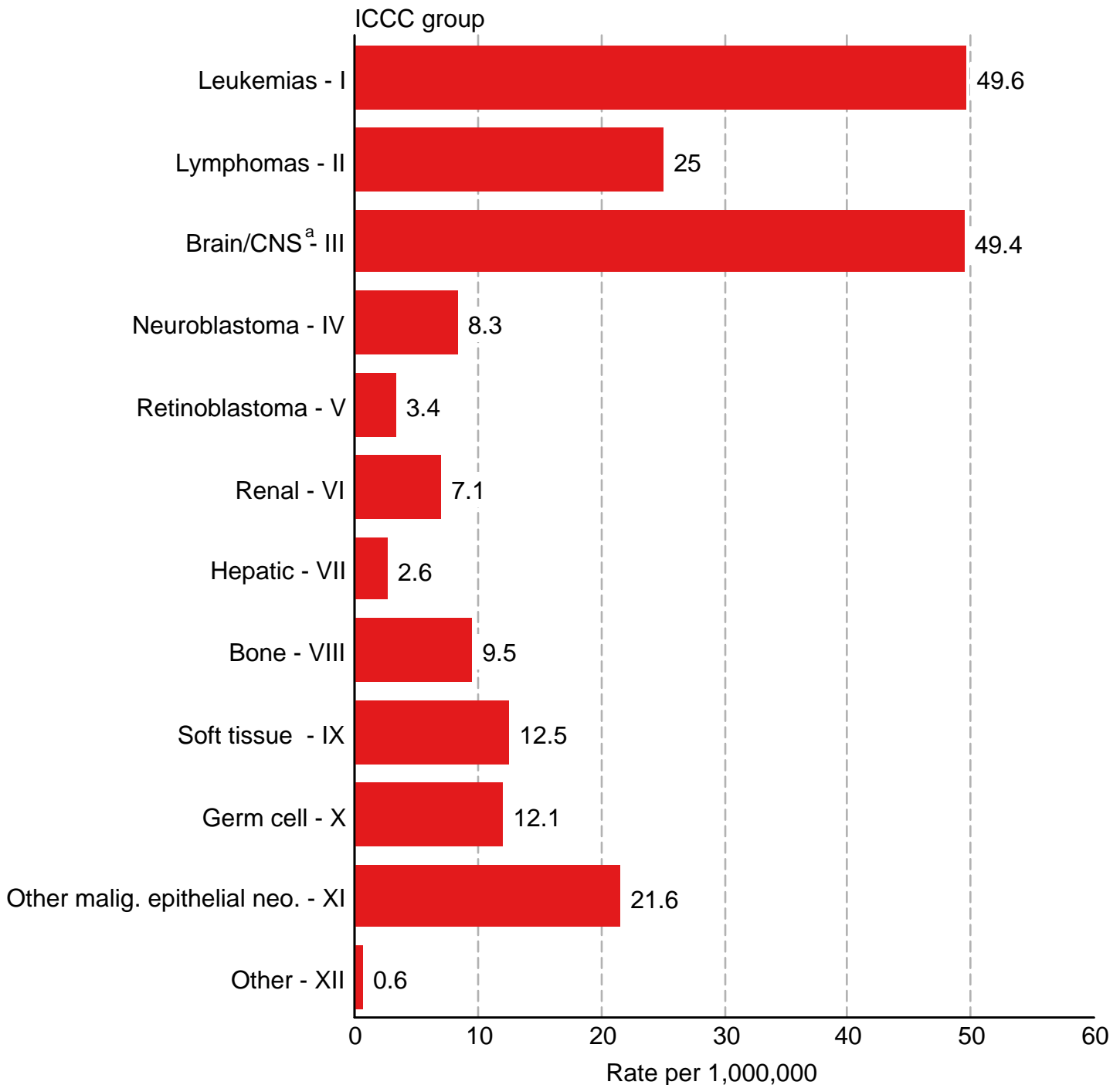
<sup>d</sup> SEER site recode Acute Lymphocytic Leukemia was used instead of the ICCC classification lymphocytic leukemia (Ia) because of statistical modeling requirements.

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 2011-2015 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).

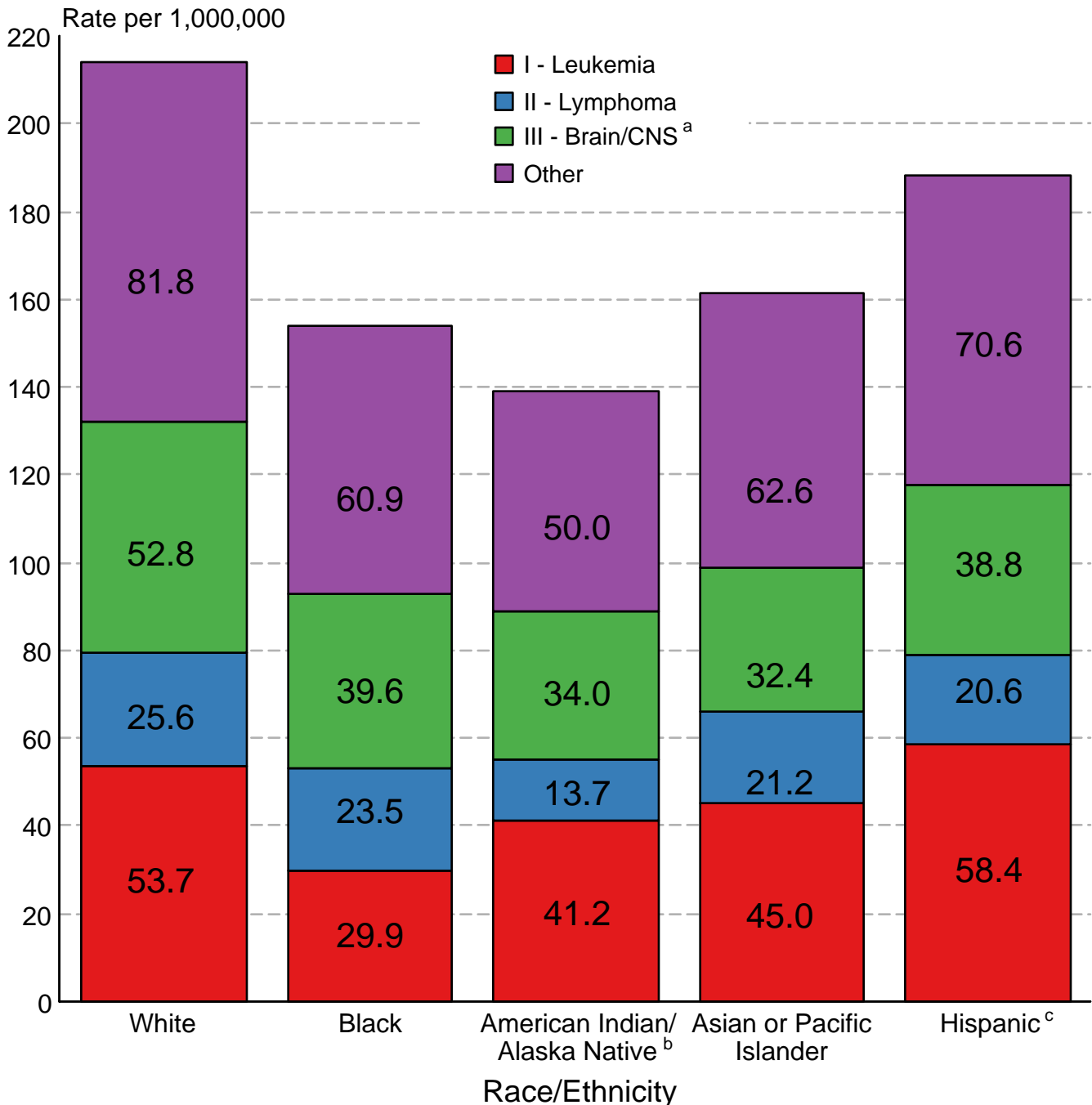
Rates are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

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 2011- 2015 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.

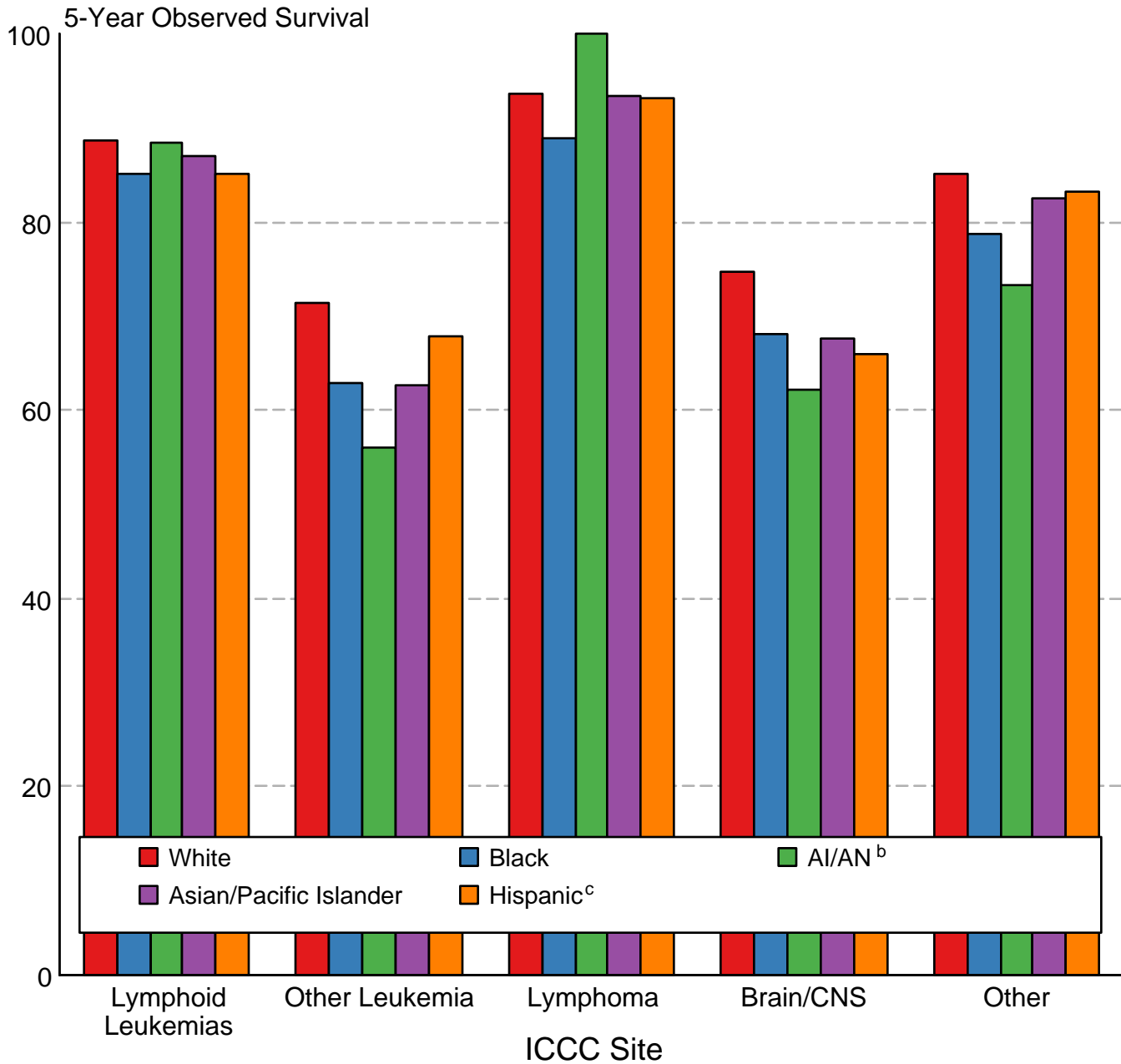
<sup>a</sup> Rate for Group III (Brain/CNS) includes benign brain tumors.

<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, 2008-2014



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.