

Table 29.1

Age-Adjusted and Age-Specific SEER Cancer Incidence Rates, 2012-2016^a
 By International Classification of Childhood Cancer (ICCC)^b Group and Subgroup^c 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	168.9	188.1	250.9	218.0	131.3	153.5	245.4
Including Group III benign brain/CNS tumors ^d	184.1	209.1	262.4	227.8	145.7	174.4	283.4
I Leukemia (includes myelodysplastic syndromes)	54.1	49.5	52.6	91.4	44.6	35.4	35.8
I(a) Lymphoid leukemia	41.1	35.4	19.7	76.3	36.7	22.9	18.3
I(b) Acute myeloid leukemia	7.9	8.3	18.2	10.4	4.2	7.8	9.6
I(c) Chronic myeloproliferative diseases	1.6	2.4	3.4	0.9	1.3	2.2	4.6
I(d) Myelodysplastic syndrome and other myeloproliferative	1.6	1.6	8.3	1.4	0.9	1.2	1.7
I(e) Unspecified and other specified leukemias	1.8	1.8	3.0	2.4	1.6	1.4	1.6
II Lymphomas and reticuloendothelial neoplasms	17.4	26.6	2.3	9.2	16.0	27.9	53.8
II(a) Hodgkin lymphoma	5.7	12.5	-	0.7	3.5	12.6	32.7
II(b) Non-Hodgkin lymphoma (except Burkitt lymphoma)	8.8	11.0	-	6.0	8.7	12.2	17.6
II(c) Burkitt lymphoma	2.6	2.6	-	2.1	3.5	2.5	2.6
II(d) Miscellaneous lymphoreticular neoplasms	0.2	0.2	-	-	-	-	-
II(e) Unspecified lymphomas	0.2	0.4	-	-	-	-	0.8
III CNS and misc intracranial and intraspinal neoplasms ^d	49.5	52.4	43.5	52.2	49.4	48.6	61.3
III(a) Ependymomas and choroid plexus tumor	4.2	3.9	9.0	6.2	2.9	3.0	3.0
III(b) Astrocytoma	18.7	17.5	14.4	22.2	19.1	16.5	14.1
III(c) Intracranial and intraspinal embryonal tumors	7.1	5.9	10.4	9.9	7.6	3.8	2.5
III(d) Other gliomas	5.9	5.6	-	5.9	7.0	5.5	4.7
III(e) Other specified intracranial/intraspinal neoplasms	11.7	17.5	5.1	6.5	11.2	17.4	34.9
III(f) Unspecified intracranial and intraspinal neoplasms	1.9	2.0	2.7	1.6	1.6	2.3	2.2
IV Neuroblastoma and other peripheral nervous cell tumor	11.1	8.6	55.1	21.8	4.5	1.4	1.0
IV(a) Neuroblastoma and ganglioneuroblastoma	10.9	8.3	55.1	21.6	4.3	1.0	0.5
IV(b) Other peripheral nervous cell tumors	0.2	0.3	-	-	-	-	0.4
V Retinoblastoma	4.4	3.3	33.4	8.2	0.5	-	-
VI Renal tumors	8.7	7.1	17.5	19.0	6.2	1.7	2.3
VI(a) Nephroblastoma and other nonepithelial renal tumor	8.2	6.3	17.2	18.8	6.0	0.8	-
VI(b) Renal carcinoma	0.4	0.8	-	-	-	0.9	1.9
VI(c) Unspecified malignant renal tumors	-	-	-	-	-	-	-

^a SEER 21 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, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

^b 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.

^c 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.

^d 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, 2012-2016^a
 By International Classification of Childhood Cancer (ICCC)^b Group and Subgroup^c 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><1</u>	<u>1-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>
VII Hepatic tumors	3.2	2.7	14.5	6.5	0.9	1.0	1.3
VII(a) Hepatoblastoma	2.8	2.1	14.5	6.4	0.5	-	-
VII(b) Hepatic carcinoma	0.4	0.6	-	-	-	0.8	1.3
VII(c) Unspecified malignant hepatic tumors	-	-	-	-	-	-	-
VIII Malignant bone tumors	7.9	9.8	-	1.9	6.6	15.2	15.5
VIII(a) Osteosarcoma	4.4	5.6	-	-	3.4	9.3	8.9
VIII(b) Chondrosarcoma	0.2	0.4	-	-	-	0.5	0.8
VIII(c) Ewing tumor and related sarcomas of bone	2.8	3.2	-	1.1	2.7	4.6	4.3
VIII(d) Other specified malignant bone tumors	0.4	0.5	-	-	-	0.7	0.9
VIII(e) Unspecified malignant bone tumors	-	0.2	-	-	-	-	0.5
IX Soft tissue and other extraosseous sarcomas	11.4	12.7	16.4	11.1	8.8	13.4	16.3
IX(a) Rhabdomyosarcoma	5.3	4.8	4.4	8.0	4.5	4.2	3.3
IX(b) Fibrosarcoma, peripheral nerve & other fibrous	1.0	1.3	4.1	-	0.8	1.1	1.9
IX(c) Kaposi sarcoma	-	-	-	-	-	-	-
IX(d) Other specified soft tissue sarcomas	3.9	5.1	5.7	1.9	2.7	6.1	8.9
IX(e) Unspecified soft-tissue sarcomas	1.2	1.5	-	0.6	0.8	1.9	2.2
X Germ cell & trophoblastic tumors & neoplasms of gonads	5.9	12.2	20.8	3.5	2.5	8.2	31.0
X(a) Intracranial and intraspinal germ-cell tumors	2.3	2.5	4.8	1.3	1.6	3.3	3.3
X(b) Extracranial & extragonadal germ cell tumors	1.5	1.6	15.0	1.5	-	-	1.7
X(c) Malignant gonadal germ cell tumors	2.5	7.9	3.3	1.5	1.2	4.5	23.8
X(d) Gonadal carcinomas	-	0.5	-	-	-	-	1.7
X(e) Other and unspecified malignant gonadal tumors	-	0.3	-	-	-	-	0.9
XI Other malignant epithelial neoplasms and melanomas ^d	9.8	23.5	3.4	1.9	5.6	21.1	64.2
XI(a) Adrenocortical carcinoma	0.2	0.2	-	-	-	-	-
XI(b) Thyroid carcinoma	3.9	11.4	-	-	1.6	9.4	34.0
XI(c) Nasopharyngeal carcinoma	0.2	0.5	-	-	-	0.6	1.1
XI(d) Malignant melanoma	2.1	4.0	-	1.2	1.9	3.2	9.8
XI(e) Skin carcinoma	-	0.1	-	-	-	-	-
XI(f) Other and unspecified carcinomas ^d	3.3	7.2	-	-	1.8	7.6	18.7
XII Other and unspecified malignant neoplasms	0.7	0.7	2.5	1.0	-	0.5	1.0
XII(a) Other specified malignant tumors	0.4	0.5	-	0.9	-	-	0.5
XII(b) Other unspecified malignant tumors	0.2	0.3	-	-	-	-	0.5
Not classified by ICC	0.2	0.3	-	-	-	-	-

^a SEER 21 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, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

^b 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.

^c 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.

^d 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^a
 By International Classification of Childhood Cancer (ICCC)^b Selected Group and Subgroup^c 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>1975-2016</u>	<u>1975-1986</u>	<u>1987-1996</u>	<u>1997-2006</u>	<u>2007-2016</u>
All ICCC Groups Combined	162.5	146.3	159.2	165.1	180.2
I Leukemia	39.8	35.4	38.2	41.6	43.8
I(a) Lymphoid leukemia	29.7	26.1	28.7	31.3	32.8
I(b) Acute myeloid leukemia	7.2	6.1	6.9	8.1	7.9
II Lymphomas and reticuloendothelial neoplasms	25.0	24.6	24.4	23.5	27.2
II(a) Hodgkin lymphoma	13.1	14.3	13.4	11.4	13.0
II(b,c,e) Non-Hodgkin lymphoma	11.4	9.6	10.3	11.6	13.9
III CNS & misc intracranial & intraspinal neoplasms	28.6	24.1	29.9	29.4	31.3
III(a) Ependymomas and choroid plexus tumor	2.5	1.9	2.6	2.5	2.9
III(b) Astrocytoma	14.5	12.1	15.7	14.5	16.1
III(c) Intracranial and intraspinal embryonal tumors	5.6	4.5	5.7	6.2	6.0
III(d) Other gliomas	5.2	4.6	5.1	5.6	5.6
IV Neuroblastoma and other peripheral nervous cell tumors	8.6	8.2	8.5	8.7	8.9
IV(a) Neuroblastoma and ganglioneuroblastoma	8.3	8.0	8.2	8.5	8.6
V Retinoblastoma	3.1	2.8	3.2	3.2	3.0
VI Renal tumors	6.7	6.5	6.8	6.6	6.9
VI(a) Nephroblastoma and other nonepithelial renal tumor	6.2	6.2	6.4	6.0	6.2
VII Hepatic tumors	2.0	1.4	1.6	2.3	2.7
VII(a) Hepatoblastoma	1.4	0.9	1.2	1.7	1.9
VIII Malignant bone tumors	8.7	8.4	8.8	8.5	9.3
VIII(a) Osteosarcoma	4.8	4.3	4.9	4.7	5.3
VIII(c) Ewing tumor and related sarcomas of bone	3.0	3.2	2.8	2.8	3.1
IX Soft tissue and other extraosseous sarcomas	11.7	10.7	11.0	12.5	12.6
IX(a) Rhabdomyosarcoma	4.5	4.2	4.8	4.6	4.6
X Germ cell & trophoblastic tumors & neoplasms of gonads	10.7	9.4	10.8	11.0	11.6
X(a) Intracranial and intraspinal germ-cell tumor	1.5	1.0	1.6	1.8	1.8
X(c) Malignant gonadal germ cell tumor	6.8	6.0	6.7	7.0	7.5
XI Other malignant epithelial neoplasms and melanomas ^d	17.1	14.0	15.2	17.1	22.3
XI(b) Thyroid carcinoma	6.6	5.0	5.2	6.1	10.2
XI(d) Malignant melanoma	5.1	4.2	5.3	5.9	5.1

^a 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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^c 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.

^d 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, 1975-2016^a
 By International Classification of Childhood Cancer (ICCC)^b Selected Group and Subgroup^c
 Excluding benign brain and myelodysplastic syndromes
 All Races, Males and Females

ICCC Group and Subgroup	Ages 0-14				Ages 0-19			
	% Change 1975-2016	APC 1975-2016	APC 1975-1995	APC 1996-2016	% Change 1975-2016	APC 1975-2016	APC 1975-1995	APC 1996-2016
All ICCG Groups Combined	44.2	0.6*	0.8*	0.6*	42.8	0.7*	0.8*	0.8*
I Leukemia	62.0	0.7*	0.7*	0.6*	63.1	0.7*	0.7*	0.7*
I(a) Lymphoid leukemia	79.9	0.7*	0.9*	0.4	86.7	0.8*	0.9*	0.6*
I(b) Acute myeloid leukemia	44.1	1.0*	1.2	0.2	31.3	0.9*	1.1	0.1
II Lymphomas and reticuloendothelial neo.	-2.4	0.3*	-0.8*	1.2* [#]	-0.9	0.2*	-0.1	0.9* [#]
II(a) Hodgkin lymphoma	-36.0	-0.6*	-1.7*	0.1 [#]	-30.0	-0.5*	-0.8	0.1
II(b,c,e) Non-Hodgkin lymphoma	23.5	1.0*	0.0	2.2* [#]	46.6	1.2*	0.9*	1.9* [#]
III CNS & misc intracranial & intraspinal neo.	35.5	0.8*	2.1*	0.3 [#]	22.8	0.7*	1.8*	0.4 [#]
III(a) Ependymomas and choroid plexus tumors	-	-	-	1.3*	-	-	-	1.3*
III(b) Astrocytoma	48.7	0.9*	2.8*	0.5 [#]	32.4	0.7*	2.2*	0.8 [#]
III(c) Intracranial and intraspinal embryonal tum.	139.3	0.7*	1.8*	-0.6 [#]	137.3	0.8*	2.0*	-0.7 [#]
III(d) Other gliomas	-35.0	0.5	0.3	0.2	-42.6	0.6*	0.7	0.0
IV Neuroblastoma and other peripheral nervous cell tumors	16.2	0.3	0.5	0.3	15.9	0.3	0.4	0.3
IV(a) Neuroblastoma and ganglioneuroblastoma	12.8	0.4	0.4	0.3	12.7	0.3	0.3	0.3
V Retinoblastoma	20.4	0.2	1.3	-0.2 [@]	20.4	0.2	1.4	-0.2 [@]
VI Renal tumors	51.3	0.0	0.6	0.0	50.1	0.1	0.7	0.1
VI(a) Nephroblastoma and other nonepithelial renal tumors	49.1	0.0	0.4	-0.1	49.1	0.0	0.5	-0.1
VII Hepatic tumors	-	-	-	-	-	-	-	-
VII(a) Hepatoblastoma	-	-	-	-	-	-	-	-
VIII Malignant bone tumors	84.4	0.4	0.9	1.3*	37.3	0.3	1.0*	0.7
VIII(a) Osteosarcoma	-	-	-	1.4	83.9	0.6*	1.7*	0.8
VIII(c) Ewing tum. and related sarcomas of bone	36.2	-	-	-	5.6	-0.1	0.3	0.6
IX Soft tissue and other extrasosseous sarcomas	41.5	0.6*	0.7	0.6	68.7	0.6*	0.5	0.2
IX(a) Rhabdomyosarcoma	54.1	0.3	1.2	0.3	55.9	0.2	1.2	0.0
X Germ cell & trophoblastic tum. & neo. of gonads	46.3	0.9*	1.4	0.2	12.4	0.7*	1.5*	0.5 [@]
X(a) Intracranial and intraspinal germ-cell tum.	-	-	-	-	-	-	-	-
X(c) Malignant gonadal germ cell tumors	11.4	-	-	-	15.7	0.7*	1.3*	0.3
XI Other malignant epithelial neo. and melanomas ^d	85.4	1.7*	0.4	3.0* [#]	121.7	1.6*	0.9*	2.8* [#]
XI(b) Thyroid carcinoma	60.8	-	-	-	193.6	2.4*	0.8	4.6* [#]
XI(d) Malignant melanoma	-	-	-	-	50.8	0.7*	1.5	-1.0 [#]

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

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

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

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^c 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.

^d Includes *in situ* urinary bladder tumors.

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

The APC for 1996-2016 is significantly different from the APC for 1975-1995 (p<.05).

@ The APC for 1996-2016 is significantly different from the APC for 1975-1995 (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, 1975-2016^a
 By International Classification of Childhood Cancer (ICCC)^b Selected Group and Subgroup^c
 Excluding benign brain and myelodysplastic syndromes
 All Races, Males

ICCC Group and Subgroup	Ages 0-14				Ages 0-19			
	% Change 1975-2016	APC 1975-2016	APC 1975-1995	APC 1996-2016	% Change 1975-2016	APC 1975-2016	APC 1975-1995	APC 1996-2016
All ICCG Groups Combined	40.2	0.6*	1.0*	0.6*	42.5	0.6*	1.0*	0.7*
I Leukemia	43.6	0.7*	0.8*	0.5	50.9	0.7*	0.6*	0.6
I(a) Lymphoid leukemia	64.6	0.7*	1.1*	0.3	76.8	0.7*	1.1*	0.4
I(b) Acute myeloid leukemia	35.2	-	-	0.0	18.8	1.0*	0.5	-0.4
II Lymphomas and reticuloendothelial neo.	-3.7	0.2	-0.9	1.6*#	1.5	0.3*	-0.2	1.4*#
II(a) Hodgkin lymphoma	-40.4	-	-	0.8	-34.3	-0.5*	-1.1	0.7#
II(b,c,e) Non-Hodgkin lymphoma	17.1	0.8*	-0.1	2.3*#	48.4	1.0*	0.9	2.0*
III CNS & misc intracranial & intraspinal neo.	65.9	0.7*	2.5*	0.1#	40.4	0.6*	2.2*	0.2#
III(a) Ependymomas and choroid plexus tumors	-	-	-	-	-	-	-	-
III(b) Astrocytoma	57.8	0.7*	3.0*	0.3#	34.6	0.5*	2.3*	0.4#
III(c) Intracranial and intraspinal embryonal tum.	-	-	-	-0.5	-	-	-	-0.7
III(d) Other gliomas	-5.3	-	-	-	-27.8	-	-	-0.2
IV Neuroblastoma and other peripheral nervous cell tumors	42.3	0.3	0.8	0.2	40.8	0.4	0.9	0.2
IV(a) Neuroblastoma and ganglioneuroblastoma	35.0	0.3	0.7	0.1	33.8	0.3	0.8	0.1
V Retinoblastoma	4.6	-	-	-	4.6	-	-	-
VI Renal tumors	13.2	-0.1	1.4	-0.4 [®]	7.3	-0.1	1.2	-0.5
VI(a) Nephroblastoma and other nonepithelial renal tumors	9.8	-0.2	1.4	-0.6 [®]	9.8	-0.2	1.3	-0.5 [®]
VII Hepatic tumors	-	-	-	-	-	-	-	-
VII(a) Hepatoblastoma	-	-	-	-	-	-	-	-
VIII Malignant bone tumors	60.3	0.6	1.3	0.6	37.4	0.5	1.7*	0.3
VIII(a) Osteosarcoma	-	-	-	-	-	-	-	0.2
VIII(c) Ewing tum. and related sarcomas of bone	-	-	-	-	-15.6	-	-	-
IX Soft tissue and other extrasosseous sarcomas	72.0	0.9*	0.8	1.2*	94.5	0.8*	0.8	0.7
IX(a) Rhabdomyosarcoma	106.7	-	-	0.6	98.5	-	-	0.4
X Germ cell & trophoblastic tum. & neo. of gonads	62.3	-	-	-	68.0	1.0*	1.7*	0.3
X(a) Intracranial and intraspinal germ-cell tum.	-	-	-	-	-	-	-	-
X(c) Malignant gonadal germ cell tum. (testis)	-	-	-	-	59.5	0.9*	1.1	0.5
XI Other malignant epithelial neo. and melanomas ^d	19.2	-	-	-	101.1	1.4*	0.9	2.4* [®]
XI(b) Thyroid carcinoma	-	-	-	-	-	-	-	-
XI(d) Malignant melanoma	-	-	-	-	-1.7	-	-	-

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

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

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^d Includes *in situ* urinary bladder tumors.

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

The APC for 1996-2016 is significantly different from the APC for 1975-1995 (p<.05).

® The APC for 1996-2016 is significantly different from the APC for 1975-1995 (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, 1975-2016^a
 By International Classification of Childhood Cancer (ICCC)^b Selected Group and Subgroup^c
 Excluding benign brain and myelodysplastic syndromes
 All Races, Females

ICCC Group and Subgroup	Ages 0-14				Ages 0-19			
	% Change 1975-2016	APC 1975-2016	APC 1975-1995	APC 1996-2016	% Change 1975-2016	APC 1975-2016	APC 1975-1995	APC 1996-2016
All ICCC Groups Combined	49.3	0.7*	0.6*	0.7*	43.3	0.7*	0.7*	0.9*
I Leukemia	91.1	0.7*	0.7	0.7*	81.9	0.8*	0.9	0.9*
I(a) Lymphoid leukemia	102.2	0.7*	0.7	0.6	101.0	0.8*	0.8	0.8*
I(b) Acute myeloid leukemia	55.4	0.6*	1.2	0.4	47.7	0.8*	1.8*	0.7
II Lymphomas and reticuloendothelial neo.	0.0	0.4	-1.0	0.6	-4.5	0.1	0.1	0.2
II(a) Hodgkin lymphoma	-30.5	-	-	-	-24.8	-0.6*	-0.4	-0.5
II(b,c,e) Non-Hodgkin lymphoma	42.0	-	-	-	42.8	1.6*	1.0	1.5
III CNS & misc intracranial & intraspinal neo.	7.3	0.8*	1.5*	0.5	4.0	0.8*	1.3*	0.7
III(a) Ependymomas and choroid plexus tumors	-	-	-	-	-	-	-	-
III(b) Astrocytoma	40.1	1.1*	2.6*	0.8	29.7	1.0*	2.1*	1.2
III(c) Intracranial and intraspinal embryonal tum.	-	-	-	-	-	-	-	-0.6
III(d) Other gliomas	-	-	-	-	-58.2	-	-	-
IV Neuroblastoma and other peripheral nervous cell tumors	-6.1	0.3	0.0	0.2	-6.1	0.3	-0.2	0.2
IV(a) Neuroblastoma and ganglioneuroblastoma	-6.1	0.3	-0.1	0.2	-6.1	0.3	-0.3	0.2
V Retinoblastoma	-	-	-	-	-	-	-	-
VI Renal tumors	94.8	0.2	-0.2	0.4	101.0	0.3	0.3	0.6
VI(a) Nephroblastoma and other nonepithelial renal tumors	88.9	0.1	-0.4	0.4	88.9	0.1	-0.2	0.3
VII Hepatic tumors	-	-	-	-	-	-	-	-
VII(a) Hepatoblastoma	-	-	-	-	-	-	-	-
VIII Malignant bone tumors	118.8	-	0.7	-	37.0	-0.1	0.1	1.2*
VIII(a) Osteosarcoma	-	-	-	-	46.0	0.4	0.6	1.9*
VIII(c) Ewing tum. and related sarcomas of bone	-	-	-	-	-	-	-	-
IX Soft tissue and other extrasosseous sarcomas	7.4	0.4	0.5	-0.3	39.4	0.4	0.2	-0.5
IX(a) Rhabdomyosarcoma	-	-	-	-	5.0	-	-	-
X Germ cell & trophoblastic tum. & neo. of gonads	30.2	-	-	1.4	-33.7	0.2	1.2	0.7
X(a) Intracranial and intraspinal germ-cell tum.	-	-	-	-	-	-	-	-
X(c) Malignant gonadal germ cell tum. (ovary)	-	-	-	-	-33.1	-	-	-0.2
XI Other malignant epithelial neo. and melanomas ^d	135.1	-	-	2.9*	134.3	1.6*	0.8	3.0*#
XI(b) Thyroid carcinoma	-	-	-	-	188.2	2.5*	1.4	4.6*#
XI(d) Malignant melanoma	-	-	-	-	108.8	-	-	-1.0

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

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

^b 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.

^c 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.

^d Includes *in situ* urinary bladder tumors.

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

The APC for 1996-2016 is significantly different from the APC for 1975-1995 (p<.05).

@ The APC for 1996-2016 is significantly different from the APC for 1975-1995 (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), 2009-2015^aBy International Classification of Childhood Cancer (ICCC)^b Selected Group and Subgroup^c 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	84.1	83.0	85.3	77.7	85.8	83.6	83.0	85.0	83.7
I Leukemia	84.1	83.7	84.7	60.1	91.3	90.2	78.6	72.8	86.5
I(a) Lymphoid leukemia	88.5	87.8	89.4	55.9	94.4	92.7	83.5	74.1	90.7
I(b) Acute myeloid leukemia	66.0	65.4	66.7	63.9	70.7	70.6	58.3	66.3	65.9
II Lymphomas and reticuloendothelial neo.	93.5	93.7	93.1	-	88.2	95.3	93.7	93.5	93.5
II(a) Hodgkin lymphoma	97.3	97.3	97.1	-	94.9	99.4	98.2	96.7	98.4
II(b,c,e) Non-Hodgkin lymphoma	89.8	90.9	87.6	-	86.9	93.7	89.9	88.3	90.8
III CNS & misc intracranial & intraspinal neo.	74.1	73.2	75.1	58.9	75.4	70.0	79.1	76.8	73.5
III(a) Ependymomas and choroid plexus tumor	81.8	81.2	82.3	80.7 ^d	79.2	79.7 ^d	81.6 ^d	90.5	80.0
III(b) Astrocytoma	81.2	80.0	82.5	81.5	90.4	77.3	81.7	75.4	82.8
III(c) Intracranial and intraspinal embryonal tumors	64.9	63.0	67.8	26.1	58.0	77.8	76.4	67.5 ^d	64.6
III(d) Other gliomas	59.8	63.4	56.1	-	53.3	41.3	72.3	83.8	53.9
IV Neuroblastoma and other peripheral nervous cell tumors	80.6	79.0	82.3	90.5	76.2	78.7	91.6	56.8 ^d	81.4
IV(a) Neuroblastoma and ganglioneuroblastoma	80.5	78.8	82.4	90.5	76.1	78.0	92.2	-	81.2
V Retinoblastoma	95.7	95.5	95.9	96.9	95.0	-	-	-	95.7
VI Renal tumors	90.7	87.4	93.7	87.6	93.7	90.2	91.7	75.0	92.1
VI(a) Nephroblastoma and other nonepithelial renal tumor	92.4	90.5	94.0	87.5	93.8	91.5	96.6	-	92.6
VII Hepatic tumors	75.3	74.0	77.4	87.3	79.6	68.4 ^d	64.1 ^d	44.0 ^d	79.0
VII(a) Hepatoblastoma	82.2	80.2	85.6	87.1	79.4	-	-	-	82.5
VIII Malignant bone tumors	71.1	70.3	72.3	-	79.2 ^d	74.5	72.0	68.0	73.2
VIII(a) Osteosarcoma	68.0	65.5	71.2	-	-	71.7	67.6	66.6	69.0
VIII(c) Ewing tumor and related sarcomas of bone	69.9	71.6	67.7	-	91.5 ^d	74.9 ^d	74.1	57.5	76.3
IX Soft tissue and other extraosseous sarcomas	73.2	70.5	76.3	66.8	78.0	78.8	74.4	68.6	75.7
IX(a) Rhabdomyosarcoma	65.3	65.6	65.1	71.5 ^d	73.7	79.4	55.8	44.9	70.5
X Germ cell & trophoblastic tumors & neo. of gonads	92.2	92.9	90.9	83.2	90.3	99.2	91.1	93.0	90.5
X(a) Intracranial and intraspinal germ-cell tumor	91.2	91.2	91.1	-	-	100.0	90.0	92.5	90.3
X(c) Malignant gonadal germ cell tumor	96.4	96.3	96.6	95.4 ^d	100.0	100.0	97.1	96.0	98.0
XI Other malignant epithelial neo. and melanomas ^f	93.3	89.9	94.8	-	90.0	92.7	92.9	93.6	92.6
XI(b) Thyroid carcinoma	99.5	99.7	99.4	-	-	100.0	99.7	99.4	99.8
XI(d) Malignant melanoma	94.4	92.9	95.5	-	88.1 ^d	95.4	95.5	94.5	94.7

^a 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 2016.

^b 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.

^c 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.

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

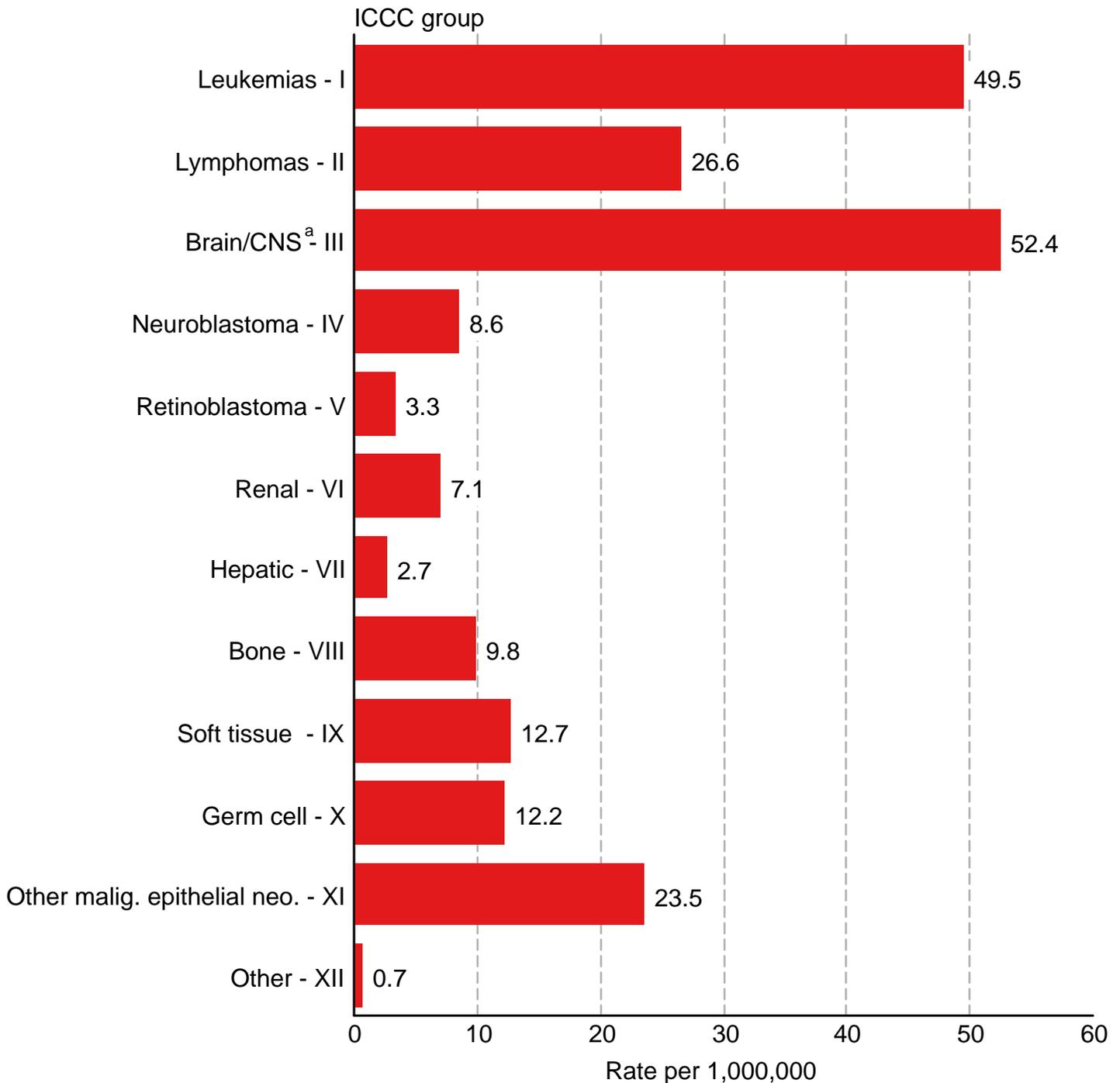
^e The standard error is greater than 10 percentage points.

^f 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.

Figure 29.1

Childhood Cancer : SEER Incidence Rates 2012-2016 by ICCC Group (includes myelodysplastic syndromes and Group III benign brain) Under 20 Years of Age, Both Sexes, All Races

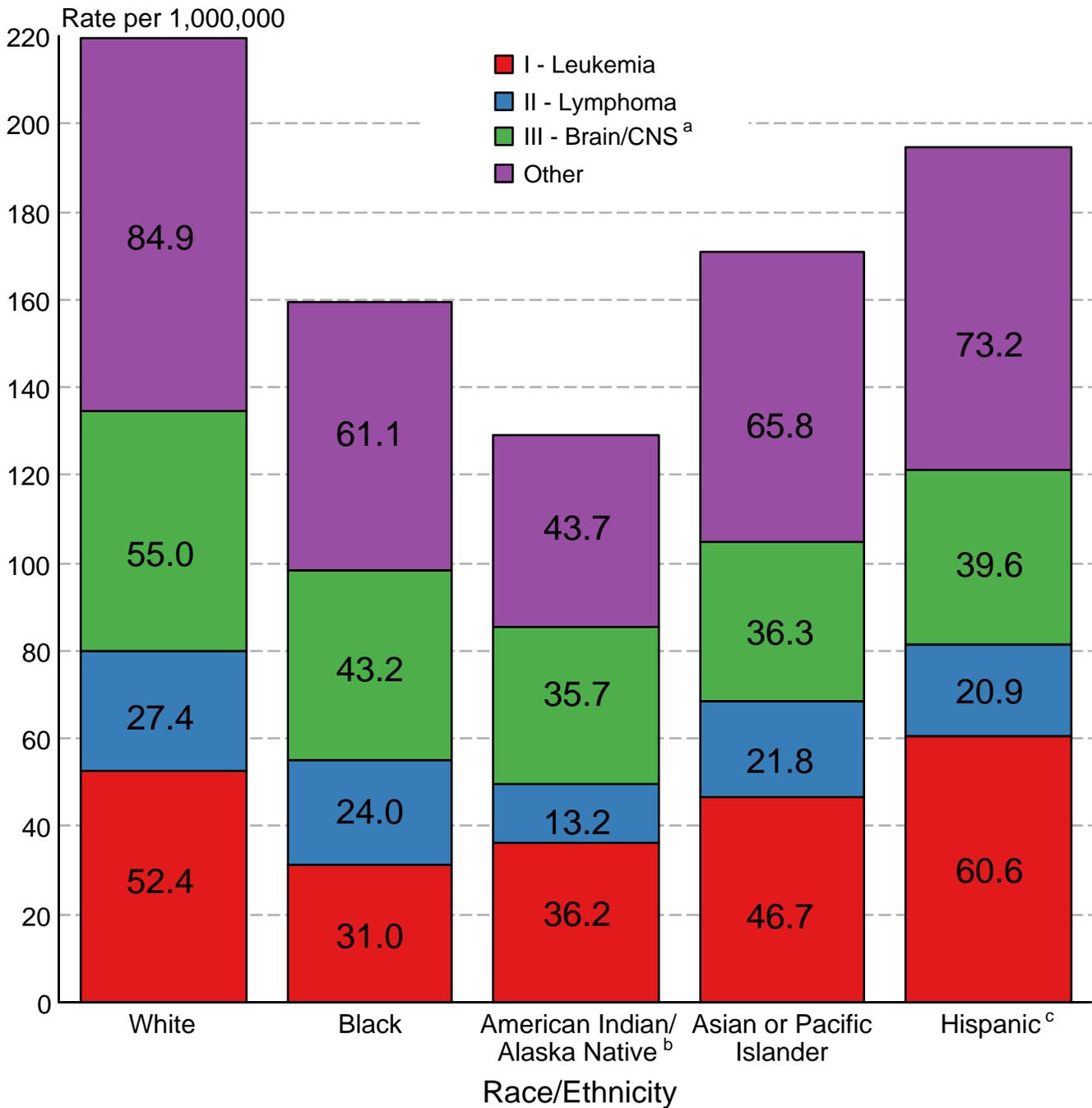


Source: SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts). 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.

^a Rate for Group III (Brain/CNS) includes benign brain tumors.

Figure 29.2

Childhood Cancer: SEER Incidence Rates 2012- 2016 by ICCC Group and Race/Ethnicity (includes myelodysplastic syndromes and Group III benign brain) Both Sexes, Under 20 Years of Age



Source: SEER 21 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, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

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.

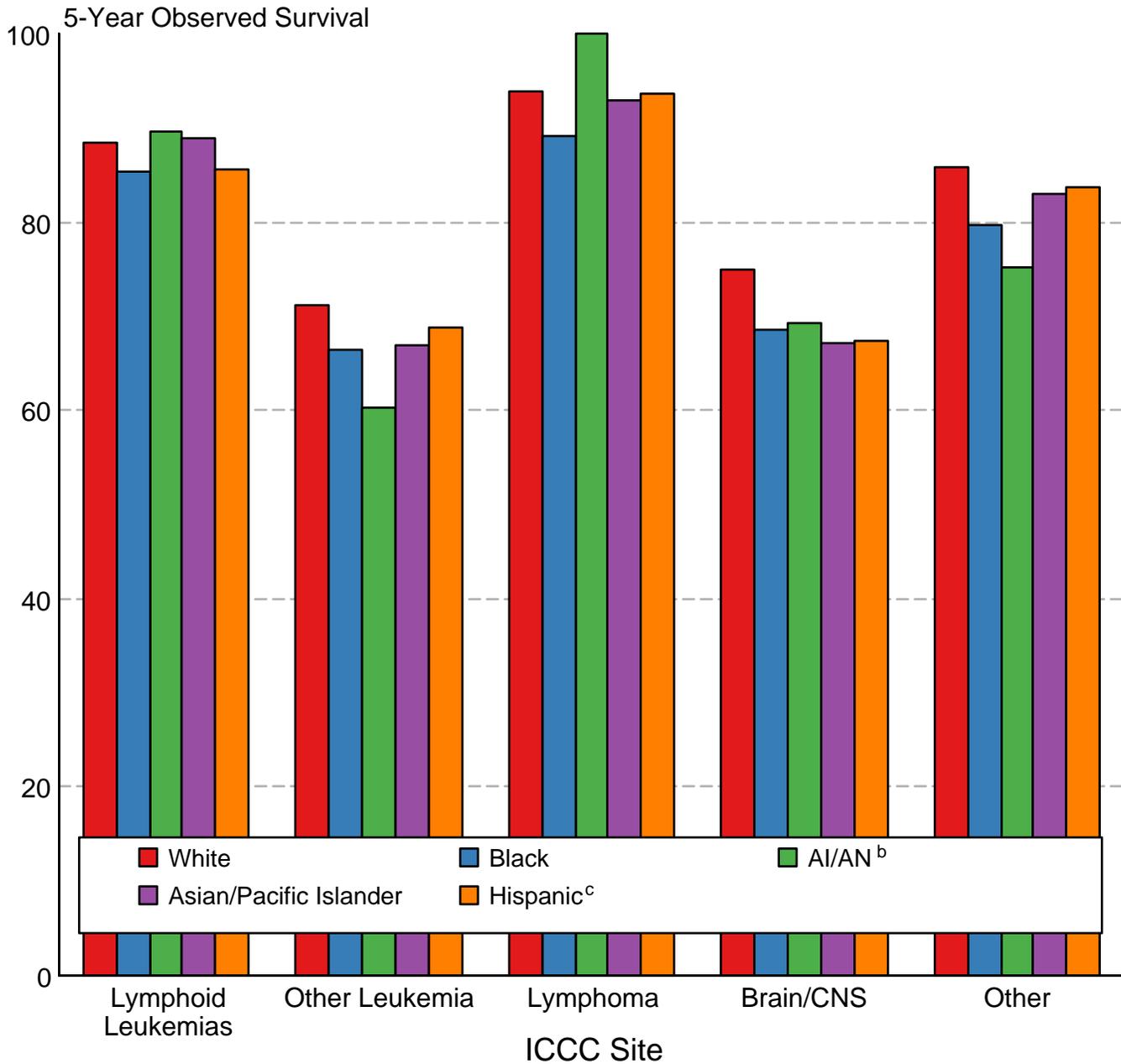
^a Rate for Group III (Brain/CNS) includes benign brain tumors.

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

^c 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^a and Race/Ethnicity Both Sexes, Under 20 Years of Age, 2009-2015



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.

^a Excludes myelodysplastic syndromes (MDS) and benign brain tumors.

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

^c 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.