

Table 29.1

Age-Adjusted and Age-Specific SEER Cancer Incidence Rates, 2013-2017^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>
All ICCC Groups Combined							
Excluding Group III benign brain/CNS tumors	169.9	188.9	247.7	217.5	131.4	157.2	245.7
Including Group III benign brain/CNS tumors ^d	185.7	210.7	260.5	227.2	146.5	179.1	284.9
I Leukemia (includes myelodysplastic syndromes)	54.0	49.5	51.7	91.6	43.9	36.0	36.2
I(a) Lymphoid leukemia	41.2	35.5	17.9	76.9	36.2	23.5	18.6
I(b) Acute myeloid leukemia	8.4	8.8	19.5	11.0	4.6	8.0	9.9
I(c) Chronic myeloproliferative diseases	1.7	2.5	3.7	1.1	1.4	2.1	5.0
I(d) Myelodysplastic syndrome and other myeloproliferative	1.6	1.7	8.1	1.4	0.8	1.3	1.8
I(e) Unspecified and other specified leukemias	1.1	1.1	2.5	1.2	0.9	1.1	0.9
II Lymphomas and reticuloendothelial neoplasms	17.7	27.0	2.5	9.6	16.7	27.8	54.4
II(a) Hodgkin lymphoma	5.7	12.4	-	0.6	3.6	12.6	32.5
II(b) Non-Hodgkin lymphoma (except Burkitt lymphoma)	9.0	11.3	-	6.8	9.1	12.0	18.3
II(c) Burkitt lymphoma	2.7	2.6	-	1.9	3.7	2.7	2.5
II(d) Miscellaneous lymphoreticular neoplasms	0.2	0.2	-	-	-	-	-
II(e) Unspecified lymphomas	0.2	0.4	-	-	-	-	0.9
III CNS and misc intracranial and intraspinal neoplasms ^d	50.5	53.4	46.2	52.5	49.7	50.5	62.2
III(a) Ependymomas and choroid plexus tumor	4.4	4.0	10.3	6.4	2.9	3.2	2.9
III(b) Astrocytoma	18.4	17.2	14.2	22.2	18.2	16.6	13.7
III(c) Intracranial and intraspinal embryonal tumors	7.3	6.1	11.5	9.9	7.6	4.1	2.5
III(d) Other gliomas	6.2	5.9	2.3	5.9	7.3	6.1	5.0
III(e) Other specified intracranial/intraspinal neoplasms	12.2	18.3	5.2	6.7	11.9	18.1	36.2
III(f) Unspecified intracranial and intraspinal neoplasms	1.9	1.9	2.6	1.4	1.7	2.4	2.0
IV Neuroblastoma and other peripheral nervous cell tumor	10.9	8.4	55.2	21.2	4.4	1.2	1.0
IV(a) Neuroblastoma and ganglioneuroblastoma	10.7	8.1	55.1	21.0	4.2	0.9	0.6
IV(b) Other peripheral nervous cell tumors	0.2	0.3	-	-	-	-	-
V Retinoblastoma	4.4	3.3	32.3	8.2	0.5	-	-
VI Renal tumors	8.8	7.1	16.6	19.2	6.4	1.8	1.9
VI(a) Nephroblastoma and other nonepithelial renal tumor	8.3	6.3	16.5	19.0	6.1	0.8	-
VI(b) Renal carcinoma	0.5	0.8	-	-	-	1.0	1.7
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. International Classification of Childhood Cancer is based on ICD-O-3. Steliarova-Foucher E, Colombet M, Ries LAG, Moreno F, Dolya A, Shin HY, Hesselting P, Stiller CA. International Incidence of Childhood Cancer, Volume III. Lyon: International Agency for Research on Cancer, In press.
- ^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, 2013-2017^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	3.4	2.9	15.0	6.3	1.1	1.2	1.5
VII(a) Hepatoblastoma	2.9	2.2	14.8	6.1	0.8	-	-
VII(b) Hepatic carcinoma	0.4	0.6	-	-	-	0.8	1.3
VII(c) Unspecified malignant hepatic tumors	-	-	-	-	-	-	-
VIII Malignant bone tumors	8.0	9.7	-	1.8	6.5	15.6	15.0
VIII(a) Osteosarcoma	4.5	5.6	-	-	3.3	9.6	8.9
VIII(b) Chondrosarcoma	0.2	0.4	-	-	-	0.5	0.8
VIII(c) Ewing tumor and related sarcomas of bone	2.8	3.1	-	1.0	2.7	4.7	4.0
VIII(d) Other specified malignant bone tumors	0.4	0.5	-	-	-	0.6	0.9
VIII(e) Unspecified malignant bone tumors	-	0.2	-	-	-	-	-
IX Soft tissue and other extraosseous sarcomas	10.9	12.4	14.7	10.4	8.5	12.9	17.0
IX(a) Rhabdomyosarcoma	5.0	4.6	4.3	7.8	4.0	3.9	3.5
IX(b) Fibrosarcoma, peripheral nerve & other fibrous	0.9	1.2	3.8	-	0.7	1.0	2.0
IX(c) Kaposi sarcoma	-	-	-	-	-	-	-
IX(d) Other specified soft tissue sarcomas	3.6	5.0	4.1	1.6	2.8	6.0	9.2
IX(e) Unspecified soft-tissue sarcomas	1.3	1.6	2.5	0.6	1.0	2.0	2.2
X Germ cell & trophoblastic tumors & neoplasms of gonads	6.0	12.0	20.6	3.5	2.8	8.4	29.7
X(a) Intracranial and intraspinal germ-cell tumors	1.6	2.0	2.5	-	1.2	2.9	2.9
X(b) Extracranial & extragonadal germ cell tumors	1.5	1.5	14.6	1.5	-	-	1.5
X(c) Malignant gonadal germ cell tumors	2.7	7.7	3.4	1.5	1.4	4.7	22.8
X(d) Gonadal carcinomas	-	0.5	-	-	-	-	1.5
X(e) Other and unspecified malignant gonadal tumors	-	0.3	-	-	-	-	1.0
XI Other malignant epithelial neoplasms and melanomas ^d	10.4	24.1	2.3	1.9	5.9	22.9	64.8
XI(a) Adrenocortical carcinoma	0.2	0.2	-	-	-	-	-
XI(b) Thyroid carcinoma	4.0	11.4	-	-	1.7	10.0	33.5
XI(c) Nasopharyngeal carcinoma	0.2	0.4	-	-	-	0.6	1.0
XI(d) Malignant melanoma	2.1	3.9	-	1.1	1.9	3.2	9.3
XI(e) Skin carcinoma	-	0.2	-	-	-	-	0.4
XI(f) Other and unspecified carcinomas ^d	3.8	8.0	-	-	2.0	8.9	20.3
XII Other and unspecified malignant neoplasms	0.8	0.9	3.0	1.1	-	0.6	1.1
XII(a) Other specified malignant tumors	0.6	0.6	2.2	1.0	-	-	0.6
XII(b) Other unspecified malignant tumors	0.2	0.3	-	-	-	-	0.5

^a Not classified by ICC

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. International Classification of Childhood Cancer is based on ICD-O-3. Steliarova-Foucher E, Colombet M, Ries LAG, Moreno F, Dolya A, Shin HY, Hesselting P, Stiller CA.

^c International Incidence of Childhood Cancer, Volume III. Lyon: International Agency for Research on Cancer, In press.

^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

ICCC Group and Subgroup	1975-2017	1975-1986	1987-1996	1997-2007	2008-2017
All ICCC Groups Combined	163.1	146.3	159.3	165.7	181.6
I Leukemia	39.9	35.5	38.2	41.5	44.2
I(a) Lymphoid leukemia	29.8	26.1	28.6	31.4	33.0
I(b) Acute myeloid leukemia	7.4	6.2	6.9	7.9	8.5
II Lymphomas and reticuloendothelial neoplasms	25.1	24.6	24.4	23.8	27.4
II(a) Hodgkin lymphoma	13.0	14.3	13.5	11.7	12.7
II(b,c,e) Non-Hodgkin lymphoma	11.5	9.6	10.3	11.7	14.5
III CNS & misc intracranial & intraspinal neoplasms	28.7	24.1	29.9	29.5	31.5
III(a) Ependymomas and choroid plexus tumor	2.5	1.9	2.6	2.5	2.9
III(b) Astrocytoma	14.6	12.1	15.7	14.5	16.2
III(c) Intracranial and intraspinal embryonal tumors	5.6	4.5	5.7	6.3	6.0
III(d) Other gliomas	5.2	4.6	5.1	5.6	5.5
IV Neuroblastoma and other peripheral nervous cell tumors	8.6	8.2	8.5	8.7	8.8
IV(a) Neuroblastoma and ganglioneuroblastoma	8.3	8.0	8.2	8.5	8.5
V Retinoblastoma	3.1	2.8	3.2	3.2	3.1
VI Renal tumors	6.7	6.5	6.8	6.5	6.9
VI(a) Nephroblastoma and other nonepithelial renal tumor	6.2	6.2	6.4	5.9	6.3
VII Hepatic tumors	2.2	1.4	1.8	2.5	2.9
VII(a) Hepatoblastoma	1.6	0.9	1.4	1.8	2.2
VIII Malignant bone tumors	8.7	8.4	8.8	8.5	9.3
VIII(a) Osteosarcoma	4.8	4.3	4.9	4.6	5.4
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	11.6	10.7	10.9	12.5	12.3
IX(a) Rhabdomyosarcoma	4.4	4.2	4.7	4.5	4.3
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	7.2	7.3
XI Other malignant epithelial neoplasms and melanomas ^d	17.3	14.0	15.2	17.2	23.1
XI(b) Thyroid carcinoma	6.7	5.0	5.2	6.2	10.5
XI(d) Malignant melanoma	5.1	4.2	5.3	5.9	4.9

^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).

^b International Classification of Childhood Cancer is based on ICD-O-3. Steliarova-Foucher E, Colombet M, Ries LAG, Moreno F, Dolya A, Shin HY, Hesselting P, Stiller CA. International Incidence of Childhood Cancer, Volume III. Lyon: International Agency for Research on Cancer, In press.

^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, 1975-2017^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 1975-2017	APC 1975-2017	APC 1975-1996	APC 1997-2017	% Change 1975-2017	APC 1975-2017	APC 1975-1996	APC 1997-2017
All ICCG Groups Combined	38.4	0.6*	0.7*	0.6*	39.6	0.7*	0.7*	0.8*
I Leukemia	62.7	0.7*	0.7*	0.6*	58.0	0.7*	0.6*	0.7*
I(a) Lymphoid leukemia	76.6	0.7*	0.9*	0.5	70.7	0.7*	0.9*	0.5
I(b) Acute myeloid leukemia	85.5	1.1*	1.4*	0.8	70.7	1.0*	1.3*	0.6
II Lymphomas and reticuloendothelial neo.	-13.2	0.3*	-0.8*	1.1*	-1.6	0.3*	-0.1	1.0*
II(a) Hodgkin lymphoma	-18.4	-0.5*	-1.3*	0.2	-26.8	-0.5*	-0.6	0.2
II(b,c,e) Non-Hodgkin lymphoma	-3.1	1.1*	-0.2	1.9*	42.4	1.3*	0.8*	1.9*
III CNS & misc intracranial & intraspinal neo.	49.9	0.7*	1.6*	0.2	51.4	0.7*	1.5*	0.4
III(a) Ependymomas and choroid plexus tumors	144.8	0.9*	1.9	1.5*	162.2	1.0*	1.9	1.8*
III(b) Astrocytoma	56.2	0.8*	2.1*	0.4	56.0	0.7*	1.7*	0.8
III(c) Intracranial and intraspinal embryonal tum.	193.2	0.8*	1.8*	-0.4	211.2	0.8*	1.9*	-0.5
III(d) Other gliomas	-19.9	0.4	-0.3	-0.3	-9.8	0.6*	0.3	-0.1
IV Neuroblastoma and other peripheral nervous cell tumors	1.7	0.3	0.4	0.2	1.7	0.3	0.4	0.3
IV(a) Neuroblastoma and ganglioneuroblastoma	-1.7	0.3	0.4	0.2	-1.6	0.3	0.3	0.3
V Retinoblastoma	16.5	0.3	0.9	-0.1	16.5	0.3	1.0	-0.1
VI Renal tumors	26.9	0.0	0.6	-0.1	27.6	0.1	0.7	0.0
VI(a) Nephroblastoma and other nonepithelial renal tumors	23.2	-0.1	0.6	-0.1	32.0	-0.1	0.6	0.0
VII Hepatic tumors	203.9	2.2*	2.1	1.5	285.5	2.1*	2.0	1.3
VII(a) Hepatoblastoma	428.5	2.5*	3.2*	1.5	428.5	2.4*	3.1*	1.6
VIII Malignant bone tumors	52.4	0.4	0.9	0.9	20.2	0.3	1.0*	0.3
VIII(a) Osteosarcoma	216.5	0.9*	1.8*	1.5	96.5	0.6*	1.7*	0.8
VIII(c) Ewing tum. and related sarcomas of bone	-9.7	-0.1	-0.4	1.0	-9.1	-0.1	0.3	0.1
IX Soft tissue and other extrasosseous sarcomas	26.9	0.5*	0.6	0.3	48.5	0.6*	0.6	0.1
IX(a) Rhabdomyosarcoma	0.0	0.1	0.9	0.1	20.3	0.1	0.8	-0.3
X Germ cell & trophoblastic tum. & neo. of gonads	50.5	0.9*	1.8*	0.6	19.5	0.6*	1.3*	0.3
X(a) Intracranial and intraspinal germ-cell tum.	88.0	-	-	0.3	105.6	1.7*	4.6*	0.5
X(c) Malignant gonadal germ cell tumors	11.4	0.1	-0.8	0.4	26.2	0.6*	1.0*	0.0
XI Other malignant epithelial neo. and melanomas ^d	81.0	1.7*	0.2	3.1*	103.4	1.6*	0.7	2.8*
XI(b) Thyroid carcinoma	59.6	1.8*	-0.1	3.8*	166.1	2.4*	0.4	4.3*
XI(d) Malignant melanoma	5.5	1.5*	0.7	0.4	10.8	0.6*	1.4	-1.3

- ^a The APC is the Annual Percent Change over the time interval.
 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. International Classification of Childhood Cancer is based on ICD-O-3. Steliarova-Foucher E, Colombet M, Ries LAG, Moreno F, Dolya A, Shin HY, Hesselning P, Stiller CA. International Incidence of Childhood Cancer, Volume III. Lyon: International Agency for Research on Cancer, In press.
- ^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 1997-2017 is significantly different from the APC for 1975-1996 (p<.05).
- @ The APC for 1997-2017 is significantly different from the APC for 1975-1996 (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, 1975-2017^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 1975-2017	APC 1975-2017	APC 1975-1996	APC 1997-2017	% Change 1975-2017	APC 1975-2017	APC 1975-1996	APC 1997-2017
All ICCG Groups Combined	30.1	0.6*	0.9*	0.6*	36.2	0.6*	0.9*	0.7*
I Leukemia	46.6	0.7*	0.7*	0.6	46.4	0.7*	0.6*	0.7*
I(a) Lymphoid leukemia	60.5	0.7*	1.0*	0.4	60.0	0.7*	1.0*	0.4
I(b) Acute myeloid leukemia	74.4	1.3*	1.7*	0.6	62.2	1.1*	1.2	0.2
II Lymphomas and reticuloendothelial neo.	-24.1	0.2	-1.0*	1.2*	-9.4	0.3*	-0.2	1.3*
II(a) Hodgkin lymphoma	-26.9	-0.7*	-1.9*	0.4	-42.0	-0.5*	-1.0*	0.7
II(b,c,e) Non-Hodgkin lymphoma	-18.6	0.8*	-0.3	1.8*	34.9	1.1*	0.8	1.9*
III CNS & misc intracranial & intraspinal neo.	57.2	0.6*	1.9*	-0.1	60.0	0.6*	1.7*	0.2
III(a) Ependymomas and choroid plexus tumors	69.6	0.4	1.7	1.2	133.5	0.5	1.6	1.4
III(b) Astrocytoma	38.7	0.6*	2.3*	0.2	53.2	0.5*	1.7*	0.5
III(c) Intracranial and intraspinal embryonal tum.	382.2	0.7	1.8*	-0.6	370.6	0.7*	2.0*	-0.8
III(d) Other gliomas	10.0	0.5	0.4	-0.4	7.8	0.6*	1.1	0.0
IV Neuroblastoma and other peripheral nervous cell tumors	42.4	0.4	0.9	0.8	40.9	0.4	1.1	0.9
IV(a) Neuroblastoma and ganglioneuroblastoma	38.7	0.4	0.9	0.7	37.4	0.4	0.9	0.8
V Retinoblastoma	5.1	0.4	1.2	-0.5	5.1	0.4	1.3	-0.5
VI Renal tumors	-1.7	-0.2	1.2	-0.7	7.9	-0.1	1.1	-0.6
VI(a) Nephroblastoma and other nonepithelial renal tumors	-7.0	-0.2	1.2	-0.9	10.6	-0.2	1.1	-0.6
VII Hepatic tumors	144.8	2.2*	3.5*	1.2	172.2	2.1*	3.4*	0.9
VII(a) Hepatoblastoma	185.2	2.4*	4.2*	1.3	185.2	2.4*	4.4*	1.5
VIII Malignant bone tumors	59.3	0.6	2.0*	0.5	40.2	0.5	2.1*	0.1
VIII(a) Osteosarcoma	331.6	1.0*	2.4*	1.2	228.6	0.7*	2.6*	0.5
VIII(c) Ewing tum. and related sarcomas of bone	-8.1	0.1	1.0	-0.2	-22.4	0.1	1.1	-0.4
IX Soft tissue and other extrasosseous sarcomas	20.1	0.7*	0.6	0.9	59.3	0.7*	0.7	0.5
IX(a) Rhabdomyosarcoma	3.4	0.2	1.1	0.5	32.6	0.1	0.8	0.1
X Germ cell & trophoblastic tum. & neo. of gonads	19.8	0.7	2.2	-0.4	52.2	0.9*	1.7*	0.1
X(a) Intracranial and intraspinal germ-cell tum.	38.5	-	-	-0.7	77.8	1.7*	4.9*	0.2
X(c) Malignant gonadal germ cell tum. (testis)	-34.8	-0.5	-1.0	-0.9	44.8	0.8*	1.0	0.0
XI Other malignant epithelial neo. and melanomas ^d	48.0	1.6*	0.1	2.9*	74.6	1.5*	0.9	2.4*
XI(b) Thyroid carcinoma	199.4	-	-	4.3*	115.4	2.2*	-1.5	4.5*
XI(d) Malignant melanoma	-77.0	1.4*	0.0	1.5	-39.7	0.6	1.8	-1.1

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

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

^c International Classification of Childhood Cancer is based on ICD-O-3. International Classification of Childhood Cancer is based on ICD-O-3. Steliarova-Foucher E, Colombet M, Ries LAG, Moreno F, Dolya A, Shin HY, Hesselning P, Stiller CA.

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^e Includes *in situ* urinary bladder tumors.

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

The APC for 1997-2017 is significantly different from the APC for 1975-1996 (p<.05).

@ The APC for 1997-2017 is significantly different from the APC for 1975-1996 (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, 1975-2017^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 1975-2017	APC 1975-2017	APC 1975-1996	APC 1997-2017	% Change 1975-2017	APC 1975-2017	APC 1975-1996	APC 1997-2017
All ICCG Groups Combined	48.9	0.7*	0.5*	0.7*	43.6	0.7*	0.5*	0.9*
I Leukemia	88.1	0.6*	0.6	0.7*	76.1	0.7*	0.7	0.7*
I(a) Lymphoid leukemia	100.1	0.7*	0.8	0.6	86.4	0.8*	0.7	0.6*
I(b) Acute myeloid leukemia	99.5	0.7*	1.1	1.0	81.8	0.9*	1.5*	1.0
II Lymphomas and reticuloendothelial neo.	8.4	0.5*	-0.6	0.9	10.1	0.2	0.2	0.5
II(a) Hodgkin lymphoma	-7.8	-0.5	-0.9	0.0	-8.2	-0.5*	-0.2	-0.3
II(b,c,e) Non-Hodgkin lymphoma	41.9	1.7*	-0.1	1.8	58.4	1.7*	1.0	1.8*
III CNS & misc intracranial & intraspinal neo.	43.2	0.8*	1.2*	0.4	42.3	0.8*	1.1*	0.7
III(a) Ependymomas and choroid plexus tumors	248.2	1.2*	1.3	1.8	194.1	1.3*	1.2	2.1*
III(b) Astrocytoma	73.0	1.0*	1.8*	0.6	59.0	0.9*	1.6*	1.1
III(c) Intracranial and intraspinal embryonal tum.	89.5	0.9*	1.7*	0.1	108.4	1.0*	1.8*	0.0
III(d) Other gliomas	-47.2	0.2	-1.2	-0.3	-28.5	0.5	-0.7	-0.3
IV Neuroblastoma and other peripheral nervous cell tumors	-33.0	0.2	-0.3	-0.5	-33.0	0.2	-0.4	-0.4
IV(a) Neuroblastoma and ganglioneuroblastoma	-36.1	0.2	-0.3	-0.5	-36.1	0.2	-0.4	-0.4
V Retinoblastoma	31.8	0.1	0.6	-0.1	31.8	0.1	0.6	-0.1
VI Renal tumors	59.6	0.1	0.0	0.4	50.9	0.2	0.3	0.6
VI(a) Nephroblastoma and other nonepithelial renal tumors	53.7	0.1	0.0	0.5	53.7	0.0	0.1	0.5
VII Hepatic tumors	376.1	2.1*	0.0	1.7	616.5	2.0*	0.1	1.6
VII(a) Hepatoblastoma	-	-	-	1.6	-	-	-	1.7
VIII Malignant bone tumors	42.5	0.1	-0.2	1.2	-4.7	-0.1	-0.4	0.6
VIII(a) Osteosarcoma	120.5	0.7	1.1	1.8	9.4	0.3	0.3	1.3
VIII(c) Ewing tum. and related sarcomas of bone	-12.0	-	-2.1	-	26.7	-0.5	-1.2	0.5
IX Soft tissue and other extrasosseous sarcomas	34.4	0.3	0.7	-0.3	36.1	0.3	0.3	-0.6
IX(a) Rhabdomyosarcoma	-3.9	0.0	0.4	-0.3	5.4	0.0	0.7	-0.9
X Germ cell & trophoblastic tum. & neo. of gonads	81.7	1.0*	1.5	1.3	-7.4	0.2	0.7	0.7
X(a) Intracranial and intraspinal germ-cell tum.	301.5	-	-	1.9	301.5	-	-	1.3
X(c) Malignant gonadal germ cell tum. (ovary)	50.3	0.4	-0.7	1.2	5.5	0.1	1.0	0.0
XI Other malignant epithelial neo. and melanomas ^d	105.9	1.8*	0.4	3.2*	120.4	1.7*	0.6	3.0*
XI(b) Thyroid carcinoma	24.7	1.7*	0.2	3.4*	182.8	2.5*	1.0	4.3*
XI(d) Malignant melanoma	115.3	-	-	-0.2	66.5	0.5	1.1	-1.4

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

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

^c International Classification of Childhood Cancer is based on ICD-O-3. International Classification of Childhood Cancer is based on ICD-O-3. Steliarova-Foucher E, Colombet M, Ries LAG, Moreno F, Dolya A, Shin HY, Hesselning P, Stiller CA.

International Incidence of Childhood Cancer, Volume III. Lyon: International Agency for Research on Cancer, In press.

^d 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.

^e Includes *in situ* urinary bladder tumors.

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

The APC for 1997-2017 is significantly different from the APC for 1975-1996 ($p < .05$).

@ The APC for 1997-2017 is significantly different from the APC for 1975-1996 ($p < .10$).

- 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), 2010-2016^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	84.5	83.6	85.5	78.1	86.0	84.7	83.3	85.3	84.1
I Leukemia	84.6	84.3	85.1	60.7	91.5	90.9	80.2	72.8	87.2
I(a) Lymphoid leukemia	88.7	87.9	89.6	56.5	94.2	93.2	84.2	74.6	90.9
I(b) Acute myeloid leukemia	67.4	67.7	67.0	67.0	71.9	68.3	63.5	66.2	67.9
II Lymphomas and reticuloendothelial neo.	93.6	93.7	93.4	-	88.5	95.7	92.9	94.0	93.1
II(a) Hodgkin lymphoma	98.0	97.8	98.1	-	100.0	100.0	98.4	97.5	98.9
II(b,c,e) Non-Hodgkin lymphoma	89.7	90.7	87.7	-	87.1	94.3	88.6	88.7	90.4
III CNS & misc intracranial & intraspinal neo.	74.2	73.9	74.7	57.7	75.5	71.2	79.2	76.0	73.9
III(a) Ependymomas and choroid plexus tumor	81.8	80.3	83.6	72.1 ^d	79.4	84.9	85.0 ^d	87.6	80.7
III(b) Astrocytoma	80.6	80.1	81.2	76.4 ^d	90.0	77.6	80.9	74.5	82.4
III(c) Intracranial and intraspinal embryonal tumors	65.9	65.4	66.8	28.6 ^d	59.5	77.7	76.6	67.1 ^d	65.8
III(d) Other gliomas	61.6	63.6	59.5	-	55.9	43.1	74.3	81.9	56.3
IV Neuroblastoma and other peripheral nervous cell tumors	80.4	79.7	81.1	90.5	76.0	74.8	91.1	63.0 ^d	81.0
IV(a) Neuroblastoma and ganglioneuroblastoma	80.3	79.5	81.1	90.5	75.9	74.2 ^d	91.2	-	80.8
V Retinoblastoma	96.2	96.0	96.3	97.0	96.0	-	-	-	96.2
VI Renal tumors	91.3	88.9	93.4	84.3	94.0	93.0	86.1	79.8	92.2
VI(a) Nephroblastoma and other nonepithelial renal tumor	92.7	91.5	93.6	84.1	94.3	93.9	88.8 ^d	-	92.8
VII Hepatic tumors	76.9	77.1	76.7	85.6	79.8	80.3 ^d	65.2 ^d	51.9 ^d	79.5
VII(a) Hepatoblastoma	82.5	81.8	83.3	85.4	79.5	96.6	-	-	82.6
VIII Malignant bone tumors	70.8	70.0	71.7	-	82.1 ^d	78.7	69.4	67.5	72.8
VIII(a) Osteosarcoma	67.7	64.8	71.2	-	-	75.7	65.2	66.6	68.4
VIII(c) Ewing tumor and related sarcomas of bone	69.2	71.4	66.0	-	92.9	78.2 ^d	70.3	57.6	75.2
IX Soft tissue and other extraosseous sarcomas	73.9	72.0	76.2	71.6	78.7	78.4	74.9	69.0	76.5
IX(a) Rhabdomyosarcoma	65.4	66.8	63.6	79.3 ^d	74.2	77.2	53.8	45.7	70.0
X Germ cell & trophoblastic tumors & neo. of gonads	92.2	92.7	91.2	84.3	89.0	98.1	90.9	93.1	90.4
X(a) Intracranial and intraspinal germ-cell tumor	90.2	90.5	89.2	-	-	98.2	90.7	91.9	89.3
X(c) Malignant gonadal germ cell tumor	96.4	96.5	96.3	92.0 ^d	100.0	100.0	95.7	96.3	97.1
XI Other malignant epithelial neo. and melanomas ^f	93.9	90.9	95.3	-	88.9	95.7	94.1	93.9	94.0
XI(b) Thyroid carcinoma	99.6	99.7	99.6	-	-	100.0	99.4	99.7	99.5
XI(d) Malignant melanoma	94.4	92.7	95.7	-	89.4 ^d	98.6	95.9	93.7	95.9

^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.

^b Based on follow-up of patients into 2016.
International Classification of Childhood Cancer is based on ICD-O-3. International Classification of Childhood Cancer is based on ICD-O-3. Steliarova-Foucher E, Colombet M, Ries LAG, Moreno F, Dolya A, Shin HY, Hesselting P, Stiller CA. International Incidence of Childhood Cancer, Volume III. Lyon: International Agency for Research on Cancer, In press.

^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.

Table 29.7
U.S. Childhood Cancer Survivors at January 1, 2017
Number of People Previously Diagnosed with Cancer as Children (Ages 0-19 Years) in the United States and Alive January 1, 2017
By International Classification of Childhood Cancer (ICCC)^a 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 1992-2017	Diagnosed before 1992 Count	% ^b
All Sites	Both	123,692	107,390	85,042	69,365	48,261	31,419	465,169	276,887	188,282	40
	Male	66,400	56,217	37,588	24,260	17,772	14,039	216,276	145,845	70,431	33
	Female ^c	57,292	51,173	47,454	45,105	30,489	17,380	248,893	131,042	117,851	47
I Leukemia	Both	41,504	26,765	12,980	8,095	3,949	904	94,197	73,161	21,036	22
	Male	22,919	14,737	6,674	3,796	1,772	381	50,279	40,564	9,715	19
	Female	18,585	12,028	6,306	4,299	2,177	523	43,918	32,597	11,321	26
Acute lymphocytic leukemia ^d	Both	34,736	22,267	13,836	9,181	3,235	163	83,418	59,888	23,530	28
	Male	19,110	12,368	7,144	4,842	1,623	92	45,179	33,327	11,852	26
	Female	15,626	9,899	6,692	4,339	1,612	71	38,239	26,561	11,678	31
I(b) Acute myeloid leukemia	Both	4,760	3,384	2,165	1,879	1,320	813	14,321	9,312	5,009	35
	Male	2,522	1,722	1,056	829	646	405	7,180	4,855	2,325	32
	Female	2,238	1,662	1,109	1,050	674	408	7,141	4,457	2,684	38
II(a) Hodgkin lymphoma	Both	4,452	10,002	7,967	7,570	6,704	3,530	40,225	22,925	17,300	43
	Male	2,634	5,441	3,727	3,661	3,321	1,759	20,543	11,861	8,682	42
	Female	1,818	4,561	4,240	3,909	3,383	1,771	19,682	11,064	8,618	44
II(b,c,e) Non-Hodgkin lymphoma	Both	7,540	7,947	5,314	2,971	2,311	2,098	28,181	19,769	8,412	30
	Male	5,086	5,339	3,287	1,514	1,140	1,172	17,538	13,188	4,350	25
	Female	2,454	2,608	2,027	1,457	1,171	926	10,643	6,581	4,062	38
III CNS and misc intracranial & intraspinal neoplasms	Both	20,589	15,994	12,798	8,992	6,886	3,713	68,972	41,939	27,033	39
	Male	10,962	8,505	6,310	4,284	2,997	1,697	34,755	22,351	12,404	36
	Female	9,627	7,489	6,488	4,708	3,889	2,016	34,217	19,588	14,629	43
IV Neuroblastoma & other peripheral nervous cell tumor	Both	9,451	3,682	2,589	2,552	2,149	1,530	21,953	12,839	9,114	42
	Male	4,759	1,887	961	937	642	399	9,585	6,528	3,057	32
	Female	4,692	1,795	1,628	1,615	1,507	1,131	12,368	6,311	6,057	49
VI Renal tumors	Both	7,838	4,891	7,629	7,160	4,220	2,187	33,925	12,414	21,511	63
	Male	3,578	2,179	4,379	3,969	2,351	1,259	17,715	5,569	12,146	69
	Female	4,260	2,712	3,250	3,191	1,869	928	16,210	6,845	9,365	58
VIII Malignant bone tumors	Both	4,136	4,555	3,763	3,841	3,498	2,066	21,859	11,808	10,051	46
	Male	2,368	2,677	2,127	1,880	1,729	1,051	11,832	6,951	4,881	41
	Female	1,768	1,878	1,636	1,961	1,769	1,015	10,027	4,857	5,170	52
VIII(a) Osteosarcoma	Both	2,227	2,549	2,056	1,894	1,760	1,326	11,812	6,551	5,261	45
	Male	1,174	1,412	1,171	878	853	683	6,171	3,648	2,523	41
	Female	1,053	1,137	885	1,016	907	643	5,641	2,903	2,738	49
VIII(c) Ewing tumor & related sarcomas of bone	Both	1,503	1,403	1,002	832	807	446	5,993	3,737	2,256	38
	Male	934	887	591	405	365	162	3,344	2,329	1,015	30
	Female	569	516	411	427	442	284	2,649	1,408	1,241	47
IX Soft tissue & other extraosseous sarcomas	Both	7,334	6,827	5,494	4,607	5,918	9,330	39,510	17,509	22,001	56
	Male	4,198	3,625	2,558	1,968	3,276	5,957	21,582	9,487	12,095	56
	Female	3,136	3,202	2,936	2,639	2,642	3,373	17,928	8,022	9,906	55
X Germ cell & trophoblastic tumors & neoplasms of gonads	Both	5,617	9,291	7,838	7,168	7,815	10,989	48,718	21,859	26,859	55
	Male	3,029	6,025	4,653	4,095	4,346	5,289	27,437	13,619	13,818	50
	Female	2,588	3,266	3,185	3,073	3,469	5,700	21,281	8,240	13,041	61

^a 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.

^b Percent diagnosed before 1992 of all ages complete prevalence counts.

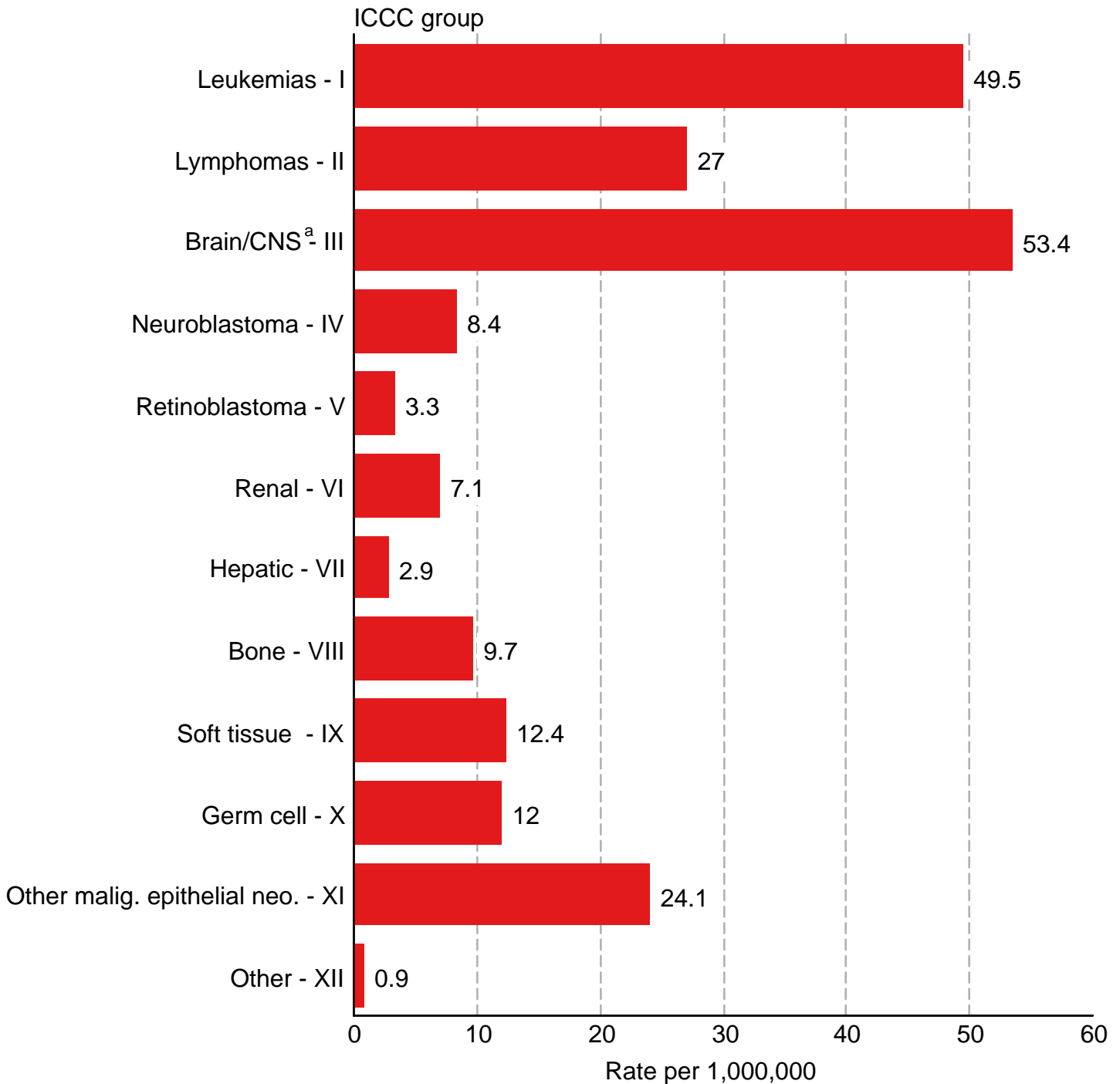
^c All sites females excludes breast cancer.

^d 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 2013-2017 by ICCC Group (includes myelodysplastic syndromes and Group III benign brain) Under 20 Years of Age, Both Sexes, All Races

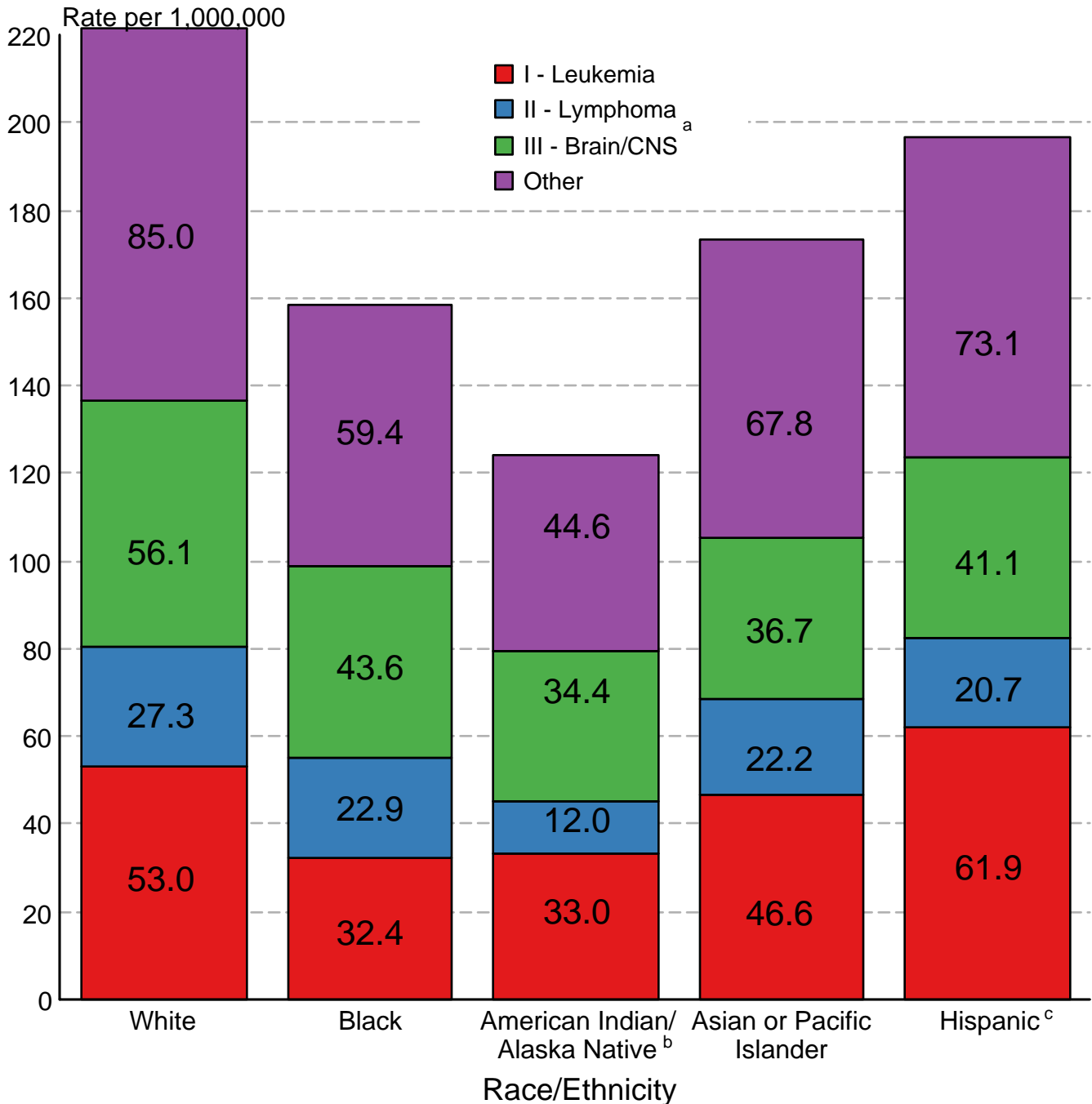


Source: SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts). 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 2013- 2017 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).

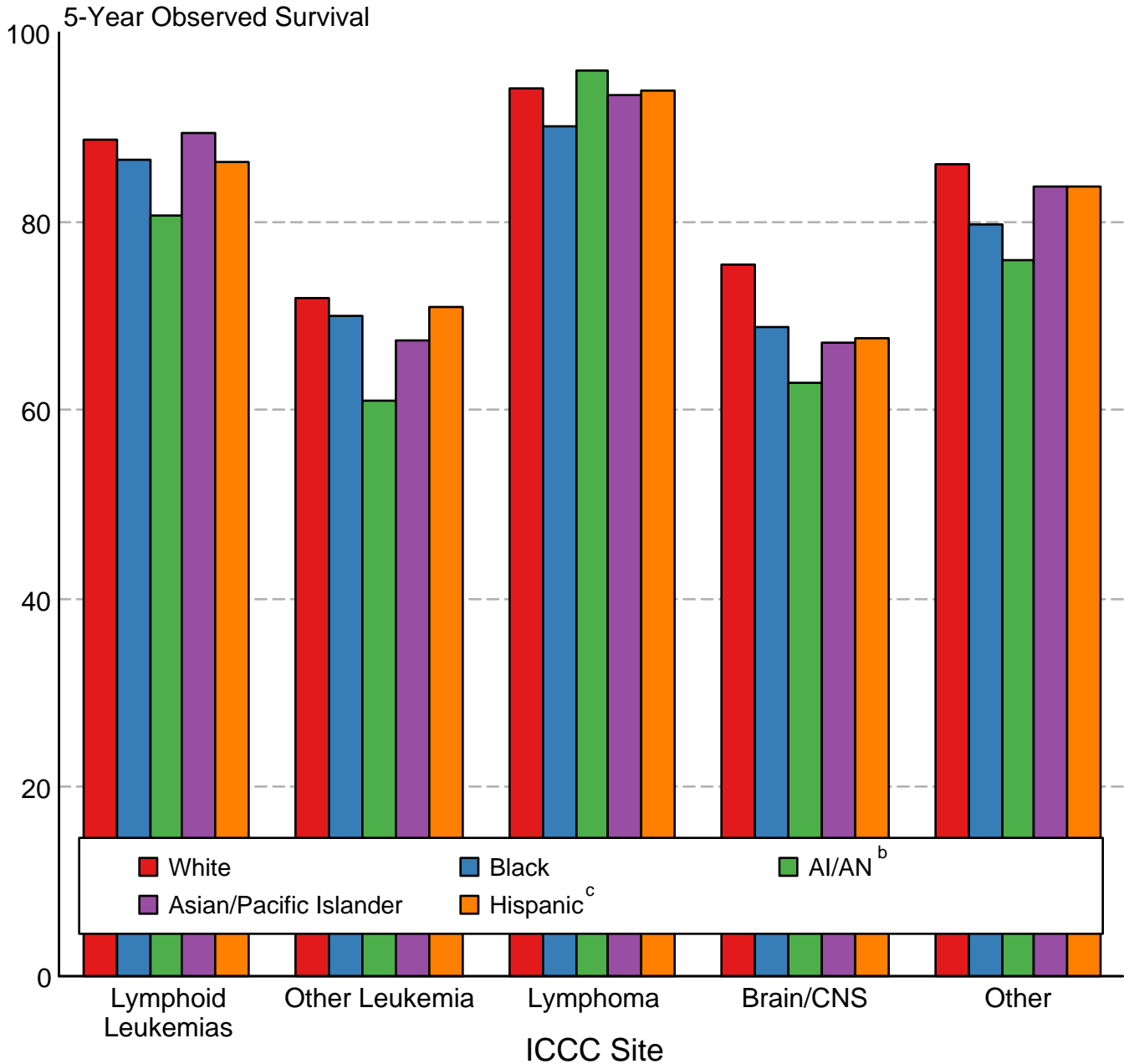
International Classification of Childhood Cancer is based on ICD-O-3. Steliarova-Foucher E, Stiller C, Lacour B, Kaatsch P. International Classification of Childhood Cancer, Third Edition. Cancer. April 1, 2005; Vol 103, No. 7 , pg 1457-1467.

^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.

Childhood Cancer 5-Year Observed Survival (%) by ICCC Group^a and Race/Ethnicity Both Sexes, Under 20 Years of Age, 2010-2016



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.