PEDIATRIC CANCER IN IDAHO, 2014–2023

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ACKNOWLEDGMENTS

Since 1971, the Idaho Department of Health and Welfare has authorized the Idaho Hospital Association to provide a statewide cancer surveillance system: the Cancer Data Registry of Idaho (CDRI).

The statewide cancer registry data are a product of collaboration among many report sources, including hospitals, physicians, surgery centers, pathology laboratories, and other states in which Idaho residents are diagnosed or treated for cancer. Their cooperation in reporting timely, accurate, and complete cancer data is acknowledged and sincerely appreciated.

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BACKGROUND

Pediatric cancer is relatively rare in comparison with cancer in older adults, yet from 2014–2024 cancer was the fifth leading cause of death in persons aged 1–19 years.[1] The epidemiology of cancer among children differs markedly from that of adults, both in the patterns of anatomic sites involved and the predominant histologic types. Most notably, cancers diagnosed in children frequently arise in the central nervous system or are of hematopoietic or mesenchymal origin. In contrast, malignancies of epithelial tissues—which are predominant in adults—are uncommon in children. Like many adult cancers, the etiology of many childhood cancers remains unclear.

The Cancer Data Registry of Idaho (CDRI) receives several requests per year from physicians and others for data on pediatric cancer incidence for the state of Idaho. This report describes the incidence of pediatric cancers in Idaho, with comparisons to data from the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) Program and the US Centers for Disease Control and Prevention's National Program of Cancer Registries (NPCR).[2,3,4] SEER currently publishes cancer incidence and survival data from population-based cancer registries covering approximately 45.9% of the US population and is considered a gold standard for quality among cancer registries around the world. NPCR supports central cancer registries in 46 states, the District of Columbia, Puerto Rico, the U.S. Pacific Island Jurisdictions, and the U.S. Virgin Islands. Together, NPCR and SEER collect data for the entire U.S. population.

METHODS

The data analyzed for this report include cancers diagnosed during 2014–2023 among Idaho residents less than 20 years of age, which includes the most currently available data in Idaho and nationally. Cases were grouped according to the International Classification of Childhood Cancer (ICCC) based on site and morphology coded according to ICD-O-3.[5]

Health District was assigned from geocoded county of residence at time of diagnosis. All incidence and mortality rates presented in this report are calculated per million population and are averages for the period 2014 through 2023; rates per million—rather than per 100,000—are commonly used for pediatric cancers because pediatric cancers are so rare. The ICCC system excludes in situ cases and does not define some benign, borderline, and malignant cases; consequently, these cases are excluded from this report. We performed age-adjustment using the direct method to the 2000 U.S. standard population. We used SEER*Stat to calculate cancer incidence, mortality, and survival statistics.[6] State rankings were calculated using the NPCR and SEER Incidence Public Use Data File.[4]

RESULTS

A total of 1,030 cases were diagnosed among Idaho resident children under the age of 20 during 2014–2023. This number includes 877 malignant cancers, 143 benign and borderline behavior neoplasms, and 10 in situ tumors. We excluded 19 benign and borderline tumors, 10 in situ tumors, and 1 malignant tumor per ICCC definitions.

A total of 1,000 cases that met the study criteria yielded an overall age-adjusted rate of 195.8 cases per million population (**Table 1**). In comparison, the SEER-12 rate was 211.0 cases per million population during 2014–2023. The distribution of pediatric cancers by ICCC grouping was similar for Idaho and SEER-12 Regions. Idaho's rates of pediatric cancer were significantly lower than the rates for SEER-12 Regions for all sites combined and acute myeloid leukemia. Idaho's rate for the ICCC grouping of "other peripheral nervous cell tumors" was significantly higher than SEER-12.

For all races combined, Idaho ranked 38th highest among states in pediatric (ages 0–19) cancer incidence 2014–2023 based on USCS data.[3] Mississippi had the lowest rates of pediatric cancer, with 175 cases per million population; New York had the highest rates of pediatric cancer with 243 cases per million population. Pediatric cancer incidence is higher among whites in the United States, and Idaho has a higher proportion of white residents than many states, so the distribution of race drives some of the differences in incidence by state. When restricting to non-Hispanic whites alone, Idaho ranked 45th in pediatric cancer incidence.

About 87% of children aged less than 20 years diagnosed with malignant cancer survived at least 5 years after their diagnosis, both in Idaho and SEER-12 Regions (**Figure 1** and **Table 2**). There were no statistically significant differences in 5-year relative survival between Idaho and SEER-12 Regions, overall and by ICCC grouping.

Table 3 and **Figure 2** show pediatric cancer incidence in Idaho and SEER-12 Regions by year of diagnosis for 2014–2023. Idaho incidence rates are lower than or equivalent to SEER-12 rates for most years and show more year-to-year variability due to smaller numbers of cases. Pediatric cancer incidence increased at a rate of about 0.3% per year in Idaho and 1.0% per year in SEER-12 Regions from 2000 to 2023 (data not shown).

Table 4 shows pediatric cancer incidence in Idaho by public health district and ICCC major classification categories during 2014–2023. For all sites combined, no health district had a statistically significantly higher or lower rate than the state of Idaho. For leukemias, myeloproliferative & myelodysplastic diseases (ICCC major classification category I), Health District 3 had a significantly higher rate than the state of Idaho (Rate Ratio = 1.4, 95% CI: 1.0–2.0). For lymphomas and reticuloendothelial neoplasms (ICCC major classification category II), Health District 4 had a significantly higher rate than the state of Idaho (Rate Ratio = 1.4, 95% CI: 1.0–1.9). For neuroblastoma and other peripheral nervous cell tumors (ICCC major classification category IV), Health District 6

had a significantly higher rate than the state of Idaho (Rate Ratio = 2.4, 95% CI: 1.1–4.8). For renal tumors (ICCC major classification category VI), Health District 3 had a significantly lower rate than the state of Idaho (Rate Ratio = 0.2, 95% CI: 0.0–0.9).

During 2014–2024, 128 Idaho children aged 0–19 died from some form of cancer (**Table 5**).[7] The leading types of cancer mortality were brain and other central nervous system and leukemia, which accounted for over half of pediatric cancer-related mortality. Cancers of the bones and joints and cancers of the soft tissue (including heart) accounted for almost 25% of cancer-related mortality (data not shown). While pediatric cancer incidence rates increased over time, pediatric cancer mortality rates decreased about 2% per year during 1975–2024 in Idaho and the U.S.[7,8] **Figure 3** depicts trends in pediatric cancer mortality rates from 2014 to 2024. The annual rates plotted for Idaho demonstrate large year-to-year variability which is expected due to the relatively small numbers of deaths per year. Although there were large increases in pediatric cancer mortality in Idaho during 2018–2019, the overall trend for the period from 2014–2024 did not show a statistically significant increase. Idaho ranked 31st among states and the District of Columbia in pediatric (ages 0–19) cancer mortality 2014–2024.[1] Maine ranked highest, with 27.7 deaths per million population, and Vermont ranked lowest, with 15.7 deaths per million population.

CONCLUSIONS

These data demonstrate strong similarity in pediatric cancer incidence and survival patterns between Idaho and SEER-12 Regions. Compared with cancer in adults,[8] there is less geographic variability in pediatric cancer incidence, which is likely related to the distribution of hereditary predispositions to cancer in the pediatric population. A 2015 study that tested children and adolescents with cancer revealed that 8.5% had predisposing gene mutations: 16.7% in patients with non-CNS solid tumors, 8.6% in patients with CNS tumors, and 4.4% in patients with leukemia.[9]

Idaho's incidence rates for cutaneous melanoma are higher than SEER-12 rates for both pediatric and adult age groups. These differences are, in part, related to Idaho's composition by race and ethnicity; melanoma incidence is higher among non-Hispanic whites and Idaho's population has a higher proportion of non-Hispanic whites than SEER-12. Among non-Hispanic whites, Idaho's incidence rates of cutaneous melanoma are lower than SEER-12 for both pediatric and adult age groups. Despite this, cutaneous melanoma in pediatric patients can be prevented by limiting ultraviolet radiation exposure through appropriate sun protection and avoiding artificial ultraviolet light, such as that found in tanning beds.

A limitation of this study that may affect interpretation of results is the potential incomplete reporting of pediatric cancers from other states in which Idaho residents are diagnosed or treated for cancer. In particular, this may be the reason why pediatric cancer incidence rates are lower in Public Health District 2. Furthermore, disruptions caused by the COVID-19 pandemic greatly impacted cancer healthcare services and may have impacted reporting from other states of Idaho 2020 pediatric cancer diagnoses and treatment.

Largely because of improvements in therapy for pediatric cancers, there has been a decrease in mortality rates over time. Data collected by CDRI for 2022 show that nearly 50% of pediatric patients participated in clinical trials (not shown), a much higher proportion than adult patients (1.2%). In the future, CDRI will attempt to monitor pediatric cancer clinical trial participation via linkages with the Children's Oncology Group, a clinical trials group supported by the National Cancer Institute.

While over 85% of children diagnosed with cancer survive at least five years, studies show that adult survivors of childhood cancer have higher prevalence of adverse health outcomes later in life and are at risk for higher health care expenditures and lost productivity, compared to adults without a history of childhood cancer.[10,11] Childhood cancer survivors continue to have excess risk of late (after 5 years) mortality through 40 years after diagnosis. Compared to the general population, long-term survivors of childhood cancer are at significantly increased risk of death. Beyond 10 years from diagnosis, excess deaths are primarily due to health-related causes including subsequent cancers, heart disease, and cerebrovascular disease.[12] Education, intervention programs, and ongoing follow-up care are important for improving health and economic outcomes associated with cancer survivorship in this population.

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Table 1. Pediatric (Ages 0-19) Cancer Incidence in Idaho and SEER Regions

Site/Type of Cancer	Idaho, 2014-2023			SEER-12, 2014-2023		
	Rate	95% CI	Cases	Rate	95% CI	Cases
All Sites Combined	**195.8 #**	183.9 - 208.4	1,000	211.0	208.2 - 213.9	21,231
I Leukemias, myeloproliferative & myelodysplastic diseases	**40.8 #**	35.4 - 46.8	204	50.4	49.0 - 51.8	5,040
I(a) Lymphoid leukemias	33.3	28.5 - 38.8	166	36.9	35.7 - 38.1	3,682
I(b) Acute myeloid leukemias	**4.7 #**	3.0 - 7.0	24	8.5	7.9 - 9.1	853
I(c) Chronic myeloproliferative diseases	1.2	0.4 - 2.6	6	2.2	2.0 - 2.5	228
I(d) Myelodysplastic syndrome and other myeloproliferative	0.8	0.2 - 2.0	4	1.5	1.3 - 1.8	148
I(e) Unspecified and other specified leukemias	0.8	0.2 - 2.0	4	1.3	1.1 - 1.5	129
II Lymphomas and reticuloendothelial neoplasms	27.1	22.8 - 32.0	140	30.0	29.0 - 31.1	3,040
II(a) Hodgkin lymphomas	10.5	8.0 - 13.7	56	11.4	10.8 - 12.1	1,169
II(b) Non-Hodgkin lymphomas (except Burkitt lymphoma)	9.9	7.4 - 13.1	51	11.5	10.9 - 12.2	1,166
II(c) Burkitt lymphoma	2.1	1.1 - 3.8	11	2.4	2.1 - 2.8	244
II(d) Miscellaneous lymphoreticular neoplasms	4.3	2.7 - 6.6	21	4.4	4.0 - 4.8	435
II(e) Unspecified lymphomas	0.2	0.0 - 1.1	1	0.3	0.2 - 0.4	26
III CNS and misc intracranial and intraspinal neoplasms	51.3	45.3 - 58.0	261	49.9	48.6 - 51.3	5,021
III(a) Ependymomas and choroid plexus tumor	4.4	2.8 - 6.7	22	4.0	3.6 - 4.4	396
III(b) Astrocytomas	15.0	11.8 - 18.8	75	14.7	14.0 - 15.5	1,473
III(c) Intracranial and intraspinal embryonal tumors	4.5	2.8 - 6.8	22	5.4	4.9 - 5.8	533
III(d) Other gliomas	9.1	6.6 - 12.1	46	7.1	6.6 - 7.7	714
III(e) Other specified intracranial/intraspinal neoplasms	16.1	12.9 - 20.0	85	17.4	16.6 - 18.2	1,770
III(f) Unspecified intracranial and intraspinal neoplasms	2.2	1.1 - 3.9	11	1.3	1.1 - 1.6	135
IV Neuroblastoma and other peripheral nervous cell tumors	8.1	5.7 - 11.0	39	8.3	7.8 - 8.9	820
IV(a) Neuroblastoma and ganglioneuroblastoma	6.8	4.6 - 9.5	32	7.9	7.4 - 8.5	777
IV(b) Other peripheral nervous cell tumors	**1.3 #**	0.5 - 2.7	7	0.4	0.3 - 0.6	43
V Retinoblastoma	1.5	0.6 - 3.0	7	2.9	2.5 - 3.2	280
VI Renal tumors	7.7	5.4 - 10.6	37	6.6	6.1 - 7.1	651
VI(a) Nephroblastoma and other nonepithelial renal tumors	7.5	5.3 - 10.4	36	5.9	5.5 - 6.4	585
VI(b) Renal carcinomas	0.2	0.0 - 1.1	1	0.6	0.5 - 0.8	64
VI(c) Unspecified malignant renal tumors	0.0	0.0 - 0.7	0	0.0	0.0 - 0.1	2
VII Hepatic tumors	2.5	1.3 - 4.3	12	3.1	2.8 - 3.5	309
VII(a) Hepatoblastoma	2.1	1.0 - 3.8	10	2.5	2.2 - 2.8	244
VII(b) Hepatic carcinomas	0.4	0.0 - 1.4	2	0.6	0.5 - 0.8	62
VII(c) Unspecified malignant hepatic tumors	0.0	0.0 - 0.7	0	0.0	0.0 - 0.1	3
VIII Malignant bone tumors	8.0	5.8 - 10.8	42	9.7	9.1 - 10.4	988
VIII(a) Osteosarcomas	4.8	3.1 - 7.0	25	5.8	5.3 - 6.2	585
VIII(b) Chondrosarcomas	0.6	0.1 - 1.7	3	0.3	0.2 - 0.4	28
VIII(c) Ewing tumor and related sarcomas of bone	1.9	0.9 - 3.6	10	3.0	2.7 - 3.4	308
VIII(d) Other specified malignant bone tumors	0.8	0.2 - 2.0	4	0.4	0.3 - 0.6	44
VIII(e) Unspecified malignant bone tumors	0.0	0.0 - 0.7	0	0.2	0.1 - 0.3	23
IX Soft tissue and other extraosseous sarcomas	11.3	8.6 - 14.6	58	12.3	11.6 - 13.0	1,240
IX(a) Rhabdomyosarcomas	4.4	2.8 - 6.7	22	4.2	3.8 - 4.6	423
IX(b) Fibrosarcomas, peripheral nerve & other fibrous	0.6	0.1 - 1.8	3	1.3	1.1 - 1.5	127
IX(c) Kaposi sarcoma	0.0	0.0 - 0.7	0	0.0	0.0 - 0.1	3
IX(d) Other specified soft tissue sarcomas	4.1	2.6 - 6.3	22	5.1	4.7 - 5.6	517
IX(e) Unspecified soft tissue sarcomas	2.1	1.1 - 3.8	11	1.7	1.4 - 2.0	170
X Germ cell & trophoblastic tumors & neoplasms of gonads	11.4	8.7 - 14.6	60	13.2	12.5 - 14.0	1,344
X(a) Intracranial & intraspinal germ cell tumors	1.9	0.9 - 3.5	10	2.6	2.3 - 2.9	257
X(b) Extracranial & extragonadal germ cell tumors	1.2	0.4 - 2.6	6	1.6	1.4 - 1.9	162
X(c) Malignant gonadal germ cell tumors	7.7	5.5 - 10.4	41	8.2	7.6 - 8.8	838
X(d) Gonadal carcinomas	0.2	0.0 - 1.1	1	0.4	0.3 - 0.6	43
X(e) Other and unspecified malignant gonadal tumors	0.4	0.0 - 1.5	2	0.4	0.3 - 0.6	44

Table 1. Pediatric (Ages 0-19) Cancer Incidence in Idaho and SEER Regions - Continued

Site/Type of Cancer	Idaho, 2014-2023				SEER-12, 2014-2023			
	Rate	95% CI		Cases	Rate	95% CI		Cases
XI Other malignant epithelial neoplasms and melanomas	26.1	21.9	30.8	139	23.6	22.7	24.5	2,414
XI(a) Adrenocortical carcinomas	0.6	0.1	1.8	3	0.2	0.1	0.3	21
XI(b) Thyroid carcinomas	10.6	8.0	13.8	57	10.4	9.7	11.0	1,063
XI(c) Nasopharyngeal carcinomas	0.4	0.0	1.4	2	0.4	0.3	0.5	38
XI(d) Malignant melanomas	4.8	3.1	7.0	25	3.3	3.0	3.7	337
XI(e) Skin carcinomas	0.0	0.0	0.7	0	0.1	0.1	0.2	11
XI(f) Other and unspecified carcinomas	9.7	7.3	12.8	52	9.2	8.7	9.8	944
XII Other and unspecified malignant neoplasms	0.2	0.0	1.1	1	0.8	0.7	1.0	84
XII(a) Other specified malignant tumors	0.0	0.0	0.7	0	0.6	0.5	0.8	60
XII(b) Other unspecified malignant tumors	0.2	0.0	1.1	1	0.2	0.2	0.4	24
Not classified by ICCC or in situ	5.8	3.9	8.2	30	7.2	6.7	7.7	729

Rates are per 1,000,000 and age-adjusted to the 2000 U.S. standard.
Cases and rates are for benign, borderline, and malignant behavior.
Confidence intervals (CIs) are 95% for rates.
The rate ratio indicates that the rate is significantly different than the rate for SEER-12 ($p<0.05$).
Statistical Note: Rates based upon 10 or fewer cases (numerator) should be interpreted with caution.

Figure 1. Pediatric Cancer Relative Survival

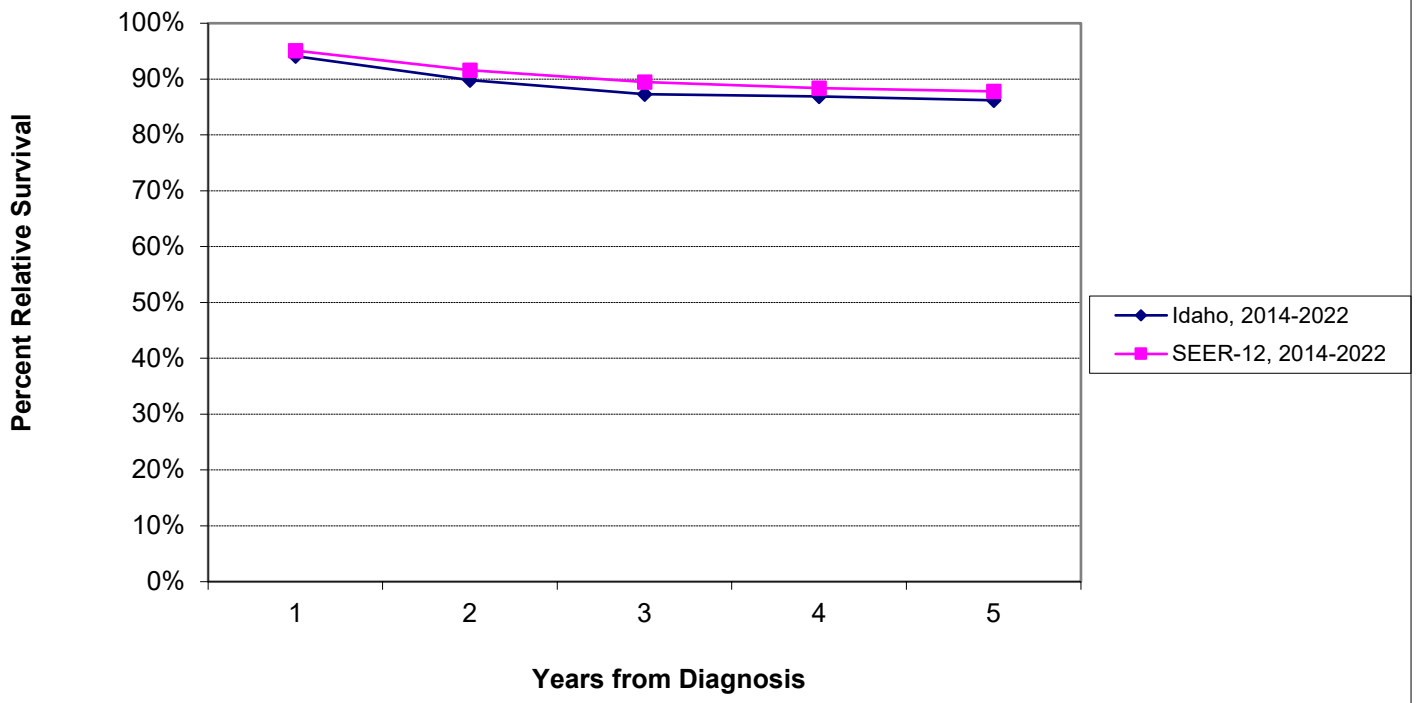

Table 2. Five-Year Relative Cancer Survival by Major ICCC Classification Category

Site/Type of Cancer	Idaho, 2014-2022			SEER-12, 2014-2022		
	Cases	% Survival	95% CI	Cases	% Survival	95% CI
All Sites Combined	**715**	**86.2%**	**83.3% - 88.7%**	**12,214**	**87.8%**	**87.1% - 88.4%**
I Leukemias, myeloproliferative & myelodysplastic diseases	175	88.7%	82.5% - 92.8%	3,261	88.4%	87.1% - 89.5%
II Lymphomas and reticuloendothelial neoplasms	116	92.0%	85.2% - 95.8%	1,928	95.5%	94.4% - 96.4%
III CNS and misc intracranial and intraspinal neoplasms	108	75.6%	65.9% - 82.8%	1,849	75.9%	73.8% - 77.9%
IV Neuroblastoma and other peripheral nervous cell tumors	29	83.8%	56.3% - 94.7%	502	84.7%	80.8% - 87.9%
V Retinoblastoma	2	+	+	168	96.4%	91.1% - 98.6%
VI Renal tumors	30	96.7%	78.5% - 99.5%	407	91.4%	87.9% - 93.9%
VII Hepatic tumors	6	+	+	181	76.7%	69.3% - 82.6%
VIII Malignant bone tumors	32	57.4%	36.7% - 73.6%	609	75.1%	71.0% - 78.7%
IX Soft tissue and other extraosseous sarcomas	52	67.3%	51.9% - 78.7%	756	76.5%	73.0% - 79.6%
X Germ cell & trophoblastic tumors & neoplasms of gonads	47	94.8%	79.3% - 98.8%	856	94.7%	92.9% - 96.1%
XI Other malignant epithelial neoplasms and melanomas	117	95.4%	89.2% - 98.1%	1,655	97.5%	96.5% - 98.2%
XII Other and unspecified malignant neoplasms	1	+	+	42	91.5%	74.9% - 97.3%

+ The statistic could not be calculated.

Table 3. Pediatric (Ages 0-19) Cancer Incidence in Idaho and SEER-12 Regions by Year of Diagnosis

Year of Diagnosis	Idaho, 2014-2023				SEER-12, 2014-2023			
	Rate	95% CI	Cases	Pop	Rate	95% CI	Cases	Pop
Total	195.8	183.9 - 208.4	1,000	5,094,179	211.0	208.2 - 213.9	21,231	100,335,843
2014	164.1	130.0 - 204.6	79	482,669	210.4	201.6 - 219.5	2,156	10,219,208
2015	202.7	164.8 - 246.8	99	487,193	220.9	211.9 - 230.2	2,266	10,226,640
2016	220.5	181.1 - 266.1	109	494,365	215.2	206.4 - 224.4	2,208	10,231,215
2017	208.9	170.8 - 252.9	105	502,253	210.0	201.3 - 219.1	2,151	10,217,385
2018	175.5	140.9 - 216.0	89	507,240	214.7	205.8 - 223.9	2,187	10,171,510
2019	192.1	156.0 - 234.0	99	513,100	201.4	192.7 - 210.3	2,042	10,109,050
2020	189.0	153.4 - 230.6	98	517,803	207.4	198.6 - 216.5	2,076	10,003,807
2021	211.3	173.9 - 254.5	112	526,799	209.0	200.0 - 218.2	2,051	9,798,186
2022	189.0	153.8 - 229.9	101	531,168	201.1	192.3 - 210.2	1,965	9,714,996
2023	202.4	166.0 - 244.4	109	531,589	219.1	209.9 - 228.6	2,129	9,643,846

Rates are per 1,000,000 and age-adjusted to the 2000 U.S. standard.

Figure 2. Trends in Malignant Pediatric Cancer Incidence Rates

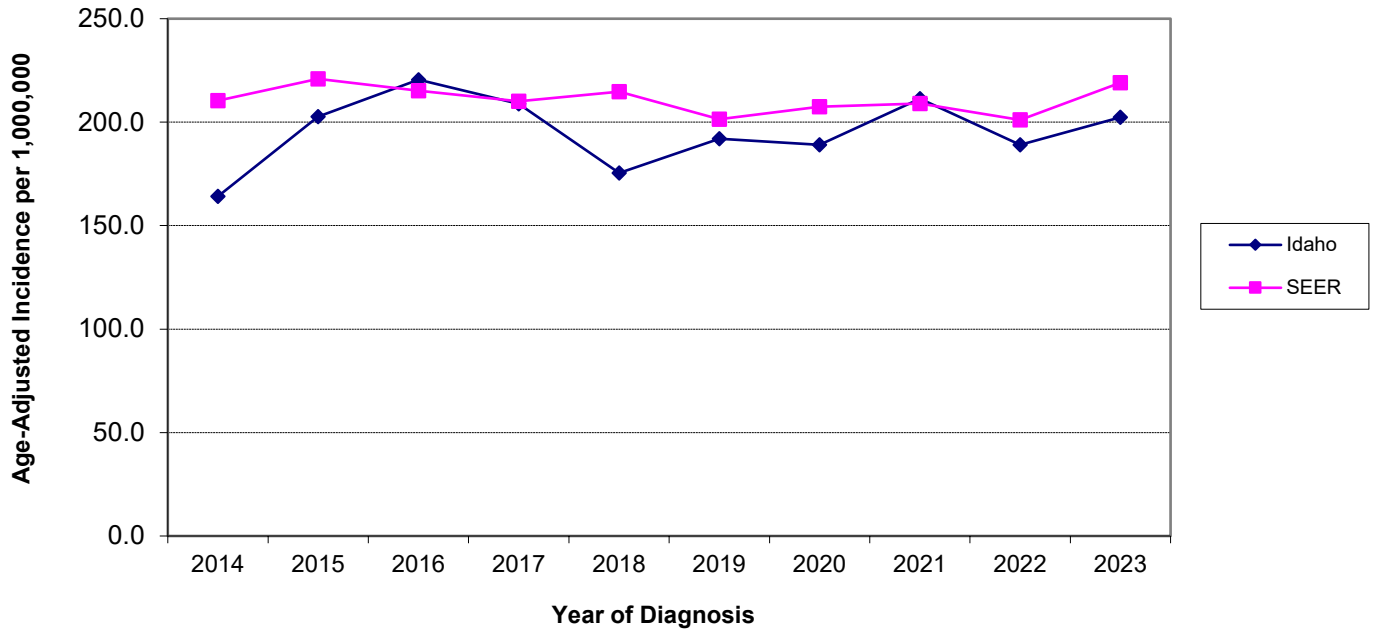

Table 4. Pediatric (Ages 0-19) Cancer Incidence in Idaho by Health District, Major Classification Categories, 2014-2023

Site/Type of Cancer	Health District 1			Health District 2			Health District 3		
	Rate	95% CI	Cases	Rate	95% CI	Cases	Rate	95% CI	Cases
All Sites Combined	181.6	148.9 - 219.3	108	151.8	108.6 - 206.8	41	200.3	171.9 - 232.1	177
I Leukemias, myeloproliferative & myelodysplastic diseases	40.1	25.7 - 59.8	24	35.4	16.1 - 67.4	9	58.9	44.0 - 77.3	52
II Lymphomas and reticuloendothelial neoplasms	18.3	9.2 - 32.9	11	16.4	4.5 - 41.8	4	27.2	17.5 - 40.6	24
III CNS and misc intracranial and intraspinal neoplasms	48.7	32.6 - 70.0	29	38.6	18.4 - 71.4	10	52.7	38.7 - 70.1	47
IV Neuroblastoma and other peripheral nervous cell tumors	3.4	0.4 - 12.4	2	8.5	1.0 - 30.1	2	8.3	3.3 - 17.1	7
V Retinoblastoma	0.0	0.0 - 6.3	0	0.0	0.0 - 14.7	0	1.2	0.0 - 6.7	1
VI Renal tumors	8.4	2.7 - 19.7	5	0.0	0.0 - 14.7	0	1.2	0.0 - 6.4	1
VII Hepatic tumors	3.5	0.4 - 12.6	2	0.0	0.0 - 14.7	0	1.2	0.0 - 6.7	1
VIII Malignant bone tumors	6.7	1.8 - 17.1	4	3.2	0.1 - 20.1	1	8.8	3.8 - 17.4	8
IX Soft tissue and other extraosseous sarcomas	5.1	1.1 - 14.9	3	10.5	2.1 - 31.9	3	10.2	4.6 - 19.3	9
X Germ cell & trophoblastic tumors & neoplasms of gonads	13.4	5.8 - 26.5	8	9.6	2.0 - 29.8	3	12.6	6.3 - 22.5	11
XI Other malignant epithelial neoplasms and melanomas	33.7	20.6 - 52.1	20	29.6	13.5 - 57.6	9	18.0	10.3 - 29.2	16
XII Other and unspecified malignant neoplasms	0.0	0.0 - 6.3	0	0.0	0.0 - 14.7	0	0.0	0.0 - 4.2	0

Site/Type of Cancer	Health District 4			Health District 5			Health District 6			Health District 7		
	Rate	95% CI	Cases	Rate	95% CI	Cases	Rate	95% CI	Cases	Rate	95% CI	Cases
All Sites Combined	217.4	193.3 - 243.8	296	196.3	162.7 - 234.8	120	210.3	173.5 - 252.7	114	172.0	144.6 - 203.0	144
I Leukemias…	35.9	26.4 - 47.6	48	37.6	23.8 - 56.5	23	36.7	22.4 - 56.8	20	36.5	24.2 - 52.8	28
II Lymphomas…	38.2	28.6 - 50.0	53	22.8	12.5 - 38.3	14	34.6	20.8 - 54.1	19	16.8	9.3 - 28.2	15
III CNS and…	62.8	50.1 - 77.7	85	61.3	43.3 - 84.2	38	33.0	19.6 - 52.2	18	43.1	29.7 - 60.3	34
IV Neuroblastoma…	8.1	3.9 - 14.8	10	8.0	2.6 - 18.9	5	19.2	9.2 - 35.3	10	4.0	0.8 - 11.6	3
V Retinoblastoma	0.8	0.0 - 4.2	1	3.6	0.4 - 12.6	2	1.9	0.0 - 10.6	1	2.7	0.3 - 9.6	2
VI Renal tumors	8.0	3.8 - 14.6	10	11.6	4.7 - 23.9	7	15.5	6.7 - 30.4	8	8.0	2.9 - 17.3	6
VII Hepatic tumors	4.7	1.7 - 10.1	6	0.0	0.0 - 6.1	0	3.7	0.4 - 13.3	2	1.3	0.0 - 7.2	1
VIII Malignant bone tumors	6.4	2.9 - 12.3	9	9.7	3.5 - 21.1	6	9.0	2.9 - 21.1	5	10.5	4.7 - 20.2	9
IX Soft tissue…	14.1	8.5 - 22.1	19	9.9	3.6 - 21.5	6	14.7	6.4 - 29.1	8	11.6	5.5 - 21.7	10
X Germ cell…	12.6	7.5 - 20.0	18	10.2	3.7 - 22.0	6	13.0	5.2 - 26.8	7	7.2	2.9 - 15.4	7
XI Other malig epithelial…	26.0	18.3 - 35.9	37	21.8	11.6 - 37.2	13	29.0	16.6 - 47.3	16	28.8	19.0 - 42.2	28
XII Other/unspecified…	0.0	0.0 - 2.8	0	0.0	0.0 - 6.1	0	0.0	0.0 - 6.9	0	1.3	0.0 - 7.2	1

Rates are per 1,000,000 and age-adjusted to the 2000 U.S. standard.

Confidence intervals (CIs) are 95% for rates.

Statistical Note: Rates based upon 10 or fewer cases (numerator) should be interpreted with caution.

Table 5. Pediatric (Ages 0-19) Cancer Mortality in Idaho and the U.S.

Year of Death	Idaho, 2014-2024				U.S., 2014-2024			
	Rate	95% CI	Deaths	Pop	Rate	95% CI	Deaths	Pop
Total	22.6	18.8 - 26.9	128	5,623,270	23.7	23.4 - 24.0	21,671	910,262,325
2014	18.6	8.5 - 35.3	9	482,679	24.6	23.5 - 25.7	2,038	82,834,118
2015	14.3	5.7 - 29.4	7	487,204	24.6	23.6 - 25.7	2,047	82,981,714
2016	26.4	14.1 - 45.2	13	494,380	25.4	24.4 - 26.5	2,118	83,193,069
2017	17.8	8.1 - 33.9	9	502,272	23.7	22.7 - 24.8	1,977	83,318,260
2018	29.1	16.3 - 48.1	15	507,269	24.0	23.0 - 25.1	2,010	83,333,434
2019	38.3	23.4 - 59.3	20	513,133	22.6	21.6 - 23.7	1,889	83,226,688
2020	13.5	5.4 - 28.1	7	517,828	22.4	21.4 - 23.5	1,860	82,886,629
2021	26.8	14.6 - 45.1	14	526,886	22.8	21.8 - 23.8	1,882	82,212,844
2022	17.7	8.5 - 32.9	10	529,777	23.4	22.3 - 24.4	1,933	82,113,420
2023	19.0	9.1 - 35.0	10	529,926	23.8	22.8 - 24.9	1,971	82,088,184
2024	26.5	14.4 - 44.5	14	531,916	23.5	22.5 - 24.6	1,946	82,073,965

Rates are per 1,000,000 and age-adjusted to the 2000 U.S. standard.

Figure 3. Trends in Pediatric Cancer Mortality Rates