

PEDIATRIC CANCER IN IDAHO, 2013–2022

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BACKGROUND

Pediatric cancer is relatively rare in comparison with cancer in older adults, yet from 2013–2022 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 2013–2022 among Idaho residents less than 20 years of age. 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 2013 through 2022; 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; 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 997 cases were diagnosed among Idaho resident children under the age of 20 during 2013–2022. This number includes 866 malignant cancers, 122 benign and borderline behavior neoplasms, and 9 in situ tumors. We excluded 18 benign and borderline tumors and 9 in situ tumors per definitions in the ICCC system.

A total of 970 cases that met the study criteria yielded an overall age-adjusted rate of 192.2 cases per million population (**Table 1**). In comparison, the SEER-12 rate was 207.9 cases per million population during 2013–2022. 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, acute myeloid leukemia, and retinoblastoma. Idaho's rate for melanoma of the skin was significantly higher than SEER-12.

For all races combined, Idaho ranked 40th highest among states in pediatric (ages 0–19) cancer incidence 2013-2022 based on USCS data.³ Mississippi had the lowest rates of pediatric cancer, with 174.1 cases per million population; New York had the highest rates of pediatric cancer with 239.7 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**). Idaho had significantly lower 5-year survival for malignant bone tumors than SEER-12 (56.7% vs 73.2%, respectively). We saw no other statistically significant differences in 5-year relative survival between Idaho and SEER-12 Regions.

Table 3 and Figure 2 show pediatric cancer incidence in Idaho and SEER-12 Regions by year of diagnosis for 2013 to 2022. 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 0.1% per year in Idaho and 1.0% per year in SEER-12 Regions from 2000 to 2022 (data not shown).

Table 4 shows pediatric cancer incidence in Idaho by public health district and ICCC major classification categories for the period 2013 to 2022. For all sites combined, no health district had a statistically significantly higher or lower rate than the state of Idaho. For lymphomas and reticuloendothelial neoplasms (ICCC major classification category II), Health District 3 had a significantly higher rate than the state of Idaho (Rate Ratio = 1.4, 95% CI: 1.0-2.0). 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: 0.0-1.0).

During 2013 to 2023, 120 of Idaho's 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 about half of pediatric cancer-related mortality. Cancers of the bones and joints and cancers of the soft tissue (including heart) accounted for about 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 1975–2023 in Idaho and the U.S.^{7,8} Figure 3 depicts trends in pediatric cancer mortality rates from 2013 to 2023. 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 2013–2023 did not show a statistically significant increase. Idaho ranked 40th among states and the District of Columbia in pediatric (ages 0–19) cancer mortality 2013–2023.¹ Maine ranked highest, with 27.5 deaths per million population, and Vermont ranked lowest, with 16.1 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 significantly higher than SEER-12 rates for both pediatric and adult age groups. These differences are 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. Limiting exposure to ultraviolet radiation can lower the risk of cutaneous melanoma.

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%). Pediatric clinical trial participation in 2022 has increased over recent years; lower participation in prior years may be due in part to increasingly complex and specific clinical trial eligibility criteria.

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.

REFERENCES

1. Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Mortality - All COD, Aggregated With State, Total U.S. (1969-2023) <Katrina/Rita Population Adjustment>, National Cancer Institute, DCCPS, Surveillance Research Program, released February 2025. Underlying mortality data provided by NCHS (www.cdc.gov/nchs).
2. Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Incidence - SEER Research Plus Limited-Field Data, 21 Registries (excl IL), Nov 2024 Sub (2000-2022) - Linked To County Attributes - Total U.S., 1969-2023 Counties, National Cancer Institute, DCCPS, Surveillance Research Program, released April 2025, based on the November 2024 submission.
3. U.S. Cancer Statistics Working Group. U.S. Cancer Statistics Data Visualizations Tool. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; <https://www.cdc.gov/cancer/dataviz>, released in June 2025.
4. National Program of Cancer Registries and Surveillance, Epidemiology and End Results Program SEER*Stat Database: NPCR and SEER Incidence - U.S. Cancer Statistics Public Use Research Database, 2024 Submission (2001-2022). United States Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute. Released June 2025. Accessed at www.cdc.gov/cancer/uscs/public-use.
5. International Classification of Childhood Cancer (ICCC). ICCC based on ICD-O-3/IARC 2017. Accessed at <https://seer.cancer.gov/iccc/iccc-iarc-2017.html> on June 21, 2025.
6. Surveillance Research Program, National Cancer Institute SEER*Stat software (<https://seer.cancer.gov/seerstat/>) version 9.0.40.0.
7. Final 2023 mortality data. Bureau of Vital Records and Health Statistics, Idaho Department of Health and Welfare; September 2024.
8. Johnson CJ, Morawski BM, Rycroft RK. Cancer in Idaho – 2022. Boise, ID: Cancer Data Registry of Idaho; December 2024.
9. Zhang J, Walsh MF, Wu G, Edmonson MN, Gruber TA, Easton J et al. Germline mutations in predisposition genes in pediatric cancer. *N Engl J Med*. 2015 Dec 10;373(24):2336-2346. doi: 10.1056/NEJMoa1508054. Epub 2015 Nov 18.
10. Hudson MM, Ness JJ, Gurney JG, Mulrooney DA, Chemaitilly W, Krull KR et al. Clinical ascertainment of health outcomes among adults treated for childhood cancer. *JAMA*. 2013;309(22):2371-2381. doi:10.1001/jama.2013.6296.
11. Guy GP, Yabroff KR, Ekwueme DU, Wilder Smith A, Dowling EC, Rechis R et al. Estimating the health and economic burden of cancer among those diagnosed as adolescents and young adults. *Health Aff*. 2014;33(6):1024-1031. doi: 10.1377/hlthaff.2013.1425.
12. Dixon SB, Liu Q, Chow EJ, Oeffinger KC, Nathan PC, Howell RM, Leisenring WM, Ehrhardt MJ, Ness KK, Krull KR, Mertens AC, Hudson MM, Robison LL, Yasui Y, Armstrong GT. Specific causes of excess late mortality and association with modifiable risk factors among survivors of childhood cancer: a report from the Childhood Cancer Survivor Study cohort. *Lancet*. 2023 Apr 29;401(10386):1447-1457. doi: 10.1016/S0140-6736(22)02471-0. Epub 2023 Apr 5. PMID: 37030315; PMCID: PMC10149583.

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

Site/Type of Cancer	Idaho, 2013-2022			SEER-12, 2013-2022		
	Rate	95% CI	Cases	Rate	95% CI	Cases
All Sites Combined	192.2 #	180.3 - 204.7	970	207.9	205.1 - 210.7	21,017
I Leukemias, myeloproliferative & myelodysplastic diseases	42.5 #	37.0 - 48.7	211	49.5	48.2 - 50.9	4,985
I(a) Lymphoid leukemias	34.4	29.4 - 39.9	170	36.1	35.0 - 37.3	3,632
I(b) Acute myeloid leukemias	5.4 #	3.5 - 7.8	27	8.6	8.0 - 9.1	864
I(c) Chronic myeloproliferative diseases	1.0	0.3 - 2.3	5	2.1	1.9 - 2.4	217
I(d) Myelodysplastic syndrome and other myeloproliferative	1.2	0.4 - 2.6	6	1.5	1.3 - 1.8	152
I(e) Unspecified and other specified leukemias	0.6	0.1 - 1.8	3	1.2	1.0 - 1.4	120
II Lymphomas and reticuloendothelial neoplasms	26.8	22.5 - 31.7	137	29.7	28.7 - 30.8	3,016
II(a) Hodgkin lymphomas	11.1	8.4 - 14.4	58	11.2	10.5 - 11.8	1,140
II(b) Non-Hodgkin lymphomas (except Burkitt lymphoma)	9.9	7.3 - 13.0	50	11.3	10.7 - 12.0	1,151
II(c) Burkitt lymphoma	2.2	1.1 - 3.9	11	2.3	2.0 - 2.7	236
II(d) Miscellaneous lymphoreticular neoplasms	3.5	2.0 - 5.6	17	4.6	4.2 - 5.1	462
II(e) Unspecified lymphomas	0.2	0.0 - 1.1	1	0.3	0.2 - 0.4	27
III CNS and misc intracranial and intraspinal neoplasms	49.0	43.1 - 55.5	247	49.3	48.0 - 50.7	4,982
III(a) Ependymomas and choroid plexus tumor	4.3	2.7 - 6.6	21	4.0	3.6 - 4.4	404
III(b) Astrocytomas	15.1	11.8 - 18.9	75	15.0	14.3 - 15.8	1,512
III(c) Intracranial and intraspinal embryonal tumors	4.9	3.1 - 7.3	24	5.4	5.0 - 5.9	542
III(d) Other gliomas	7.1	5.0 - 9.9	36	6.6	6.2 - 7.2	670
III(e) Other specified intracranial/intraspinal neoplasms	15.2	12.1 - 19.0	79	16.9	16.1 - 17.7	1,721
III(f) Unspecified intracranial and intraspinal neoplasms	2.4	1.2 - 4.2	12	1.3	1.1 - 1.6	133
IV Neuroblastoma and other peripheral nervous cell tumors	7.7	5.4 - 10.6	37	8.3	7.7 - 8.9	825
IV(a) Neuroblastoma and ganglioneuroblastoma	6.9	4.8 - 9.7	33	8.0	7.4 - 8.5	792
IV(b) Other peripheral nervous cell tumors	0.8	0.2 - 2.0	4	0.3	0.2 - 0.5	33
V Retinoblastoma	1.3 #	0.5 - 2.7	6	2.9	2.5 - 3.2	284
VI Renal tumors	7.1	4.9 - 9.9	34	6.5	6.0 - 7.0	649
VI(a) Nephroblastoma and other nonepithelial renal tumors	6.5	4.4 - 9.2	31	5.8	5.4 - 6.3	580
VI(b) Renal carcinomas	0.6	0.1 - 1.7	3	0.7	0.5 - 0.8	68
VI(c) Unspecified malignant renal tumors	0.0	0.0 - 0.7	0	0.0	0.0 - 0.1	1
VII Hepatic tumors	2.1	1.0 - 3.8	10	3.0	2.7 - 3.4	302
VII(a) Hepatoblastoma	1.7	0.7 - 3.3	8	2.4	2.1 - 2.7	238
VII(b) Hepatic carcinomas	0.4	0.0 - 1.4	2	0.6	0.5 - 0.8	61
VII(c) Unspecified malignant hepatic tumors	0.0	0.0 - 0.7	0	0.0	0.0 - 0.1	3
VIII Malignant bone tumors	7.6	5.4 - 10.4	39	9.4	8.8 - 10.0	958
VIII(a) Osteosarcomas	4.5	2.8 - 6.7	23	5.5	5.1 - 6.0	562
VIII(b) Chondrosarcomas	0.4	0.0 - 1.4	2	0.3	0.2 - 0.4	26
VIII(c) Ewing tumor and related sarcomas of bone	1.6	0.7 - 3.1	8	3.1	2.7 - 3.4	311
VIII(d) Other specified malignant bone tumors	1.2	0.4 - 2.5	6	0.4	0.3 - 0.5	40
VIII(e) Unspecified malignant bone tumors	0.0	0.0 - 0.7	0	0.2	0.1 - 0.3	19
IX Soft tissue and other extraosseous sarcomas	11.5	8.7 - 14.9	58	12.1	11.4 - 12.7	1,219
IX(a) Rhabdomyosarcomas	4.7	2.9 - 7.0	23	4.2	3.8 - 4.6	419
IX(b) Fibrosarcomas, peripheral nerve & other fibrous	0.8	0.2 - 2.1	4	1.3	1.1 - 1.5	129
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	3.7	2.2 - 5.7	19	5.0	4.5 - 5.4	504
IX(e) Unspecified soft tissue sarcomas	2.4	1.2 - 4.1	12	1.6	1.4 - 1.9	164
X Germ cell & trophoblastic tumors & neoplasms of gonads	11.9	9.1 - 15.3	62	13.1	12.4 - 13.8	1,335
X(a) Intracranial & intraspinal germ cell tumors	1.9	0.9 - 3.6	10	2.5	2.2 - 2.9	256
X(b) Extracranial & extragonadal germ cell tumors	1.0	0.3 - 2.4	5	1.6	1.4 - 1.9	161
X(c) Malignant gonadal germ cell tumors	8.4	6.1 - 11.3	44	8.1	7.6 - 8.7	833
X(d) Gonadal carcinomas	0.2	0.0 - 1.1	1	0.4	0.3 - 0.5	41
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, 2013-2022			SEER-12, 2013-2022		
	Rate	95% CI	Cases	Rate	95% CI	Cases
XI Other malignant epithelial neoplasms and melanomas	24.3	20.3 - 29.0	127	23.3	22.3 - 24.2	2,381
XI(a) Adrenocortical carcinomas	0.6	0.1 - 1.8	3	0.2	0.1 - 0.3	19
XI(b) Thyroid carcinomas	9.1	6.7 - 12.1	48	10.4	9.8 - 11.1	1,069
XI(c) Nasopharyngeal carcinomas	0.4	0.0 - 1.4	2	0.4	0.3 - 0.5	40
XI(d) Malignant melanomas	5.4 #	3.6 - 7.9	28	3.5	3.1 - 3.8	354
XI(e) Skin carcinomas	0.0	0.0 - 0.7	0	0.1	0.1 - 0.2	12
XI(f) Other and unspecified carcinomas	8.8	6.4 - 11.7	46	8.7	8.1 - 9.3	887
XII Other and unspecified malignant neoplasms	0.4	0.0 - 1.5	2	0.8	0.6 - 1.0	81
XII(a) Other specified malignant tumors	0.2	0.0 - 1.2	1	0.6	0.4 - 0.7	57
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	5.3	3.5 - 7.7	27	7.0	6.5 - 7.5	709

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

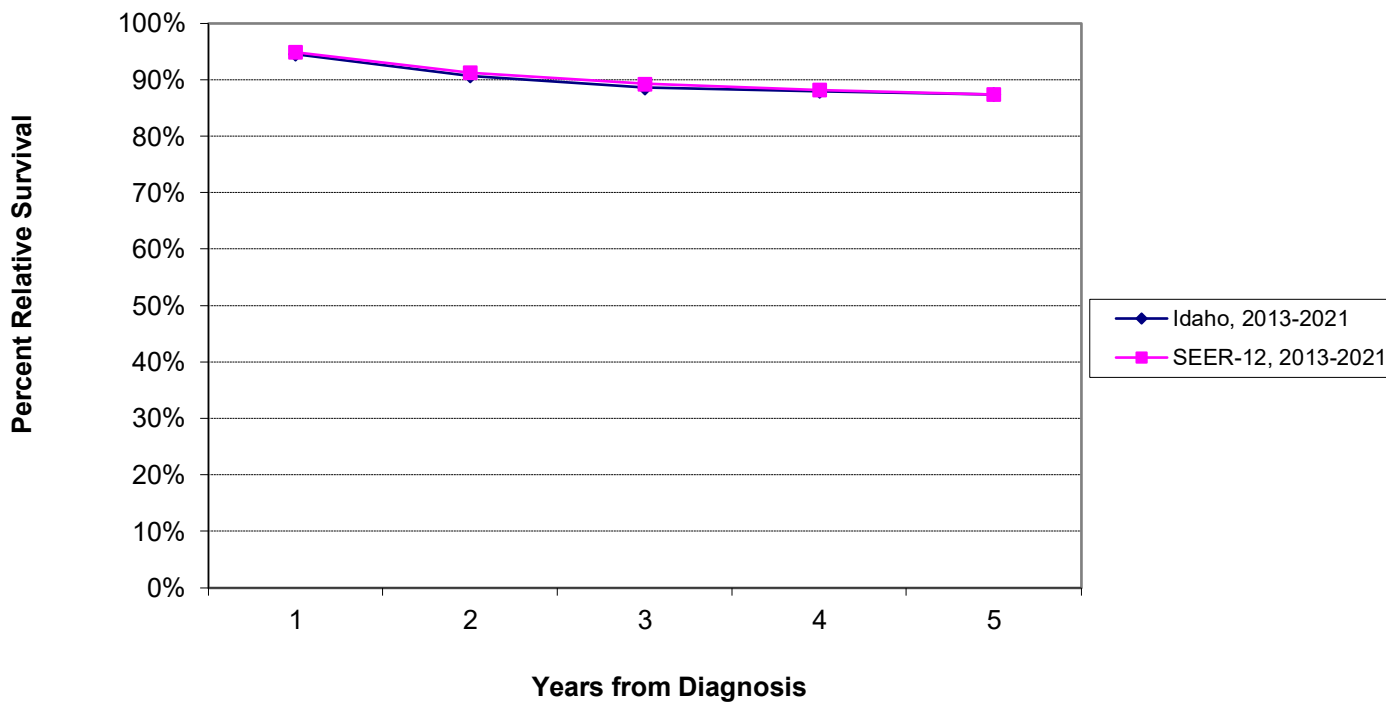


Table 2. Five-Year Relative Cancer Survival by Major ICCC Classification Category

Site/Type of Cancer	Idaho, 2013-2021			SEER-12, 2013-2021		
	Cases	% Survival	95% CI	Cases	% Survival	95% CI
All Sites Combined	706	87.4%	84.5% - 89.7%	12,359	87.5%	86.9% - 88.1%
I Leukemias, myeloproliferative & myelodysplastic diseases	174	90.1%	84.1% - 93.9%	3,302	88.1%	86.9% - 89.3%
II Lymphomas and reticuloendothelial neoplasms	115	93.7%	87.1% - 97.0%	1,942	95.3%	94.1% - 96.2%
III CNS and misc intracranial and intraspinal neoplasms	114	80.6%	71.7% - 86.9%	1,933	76.0%	73.9% - 78.0%
IV Neuroblastoma and other peripheral nervous cell tumors	27	79.3%	53.2% - 91.9%	527	85.7%	82.1% - 88.6%
V Retinoblastoma	2	+	+	182	97.2%	92.0% - 99.0%
VI Renal tumors	27	92.4%	72.5% - 98.1%	407	91.7%	88.2% - 94.2%
VII Hepatic tumors	6	+	+	187	77.9%	70.6% - 83.6%
VIII Malignant bone tumors	34	56.7%	36.9% - 72.3%	612	73.2%	69.0% - 76.9%
IX Soft tissue and other extraosseous sarcomas	50	72.9%	56.8% - 83.9%	734	76.4%	72.9% - 79.6%
X Germ cell & trophoblastic tumors & neoplasms of gonads	46	95.6%	83.2% - 98.9%	852	94.4%	92.5% - 95.9%
XI Other malignant epithelial neoplasms and melanomas	109	94.7%	87.5% - 97.8%	1,642	97.0%	96.0% - 97.8%
XII Other and unspecified malignant neoplasms	2	+	+	39	87.5%	69.1% - 95.3%

+ 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, 2013-2022			SEER-12, 2013-2022		
	Rate	Cases	Pop	Rate	Cases	Pop
Total	192.2	970	5,039,732	207.9	21,017	100,862,611
2013	201.5	96	478,304	203.1	2,082	10,221,284
2014	164.1	79	482,679	210.2	2,153	10,217,059
2015	204.7	100	487,204	220.6	2,262	10,223,984
2016	212.3	105	494,380	214.5	2,199	10,228,088
2017	208.9	105	502,272	209.4	2,144	10,213,774
2018	173.6	88	507,269	213.6	2,175	10,167,398
2019	192.3	99	513,133	199.8	2,025	10,104,387
2020	185.2	96	517,828	205.5	2,056	10,000,931
2021	199.9	106	526,886	206.5	2,026	9,797,087
2022	180.3	96	529,777	194.5	1,895	9,688,619

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

Figure 2. Trends in Malignant Pediatric Cancer Incidence Rates

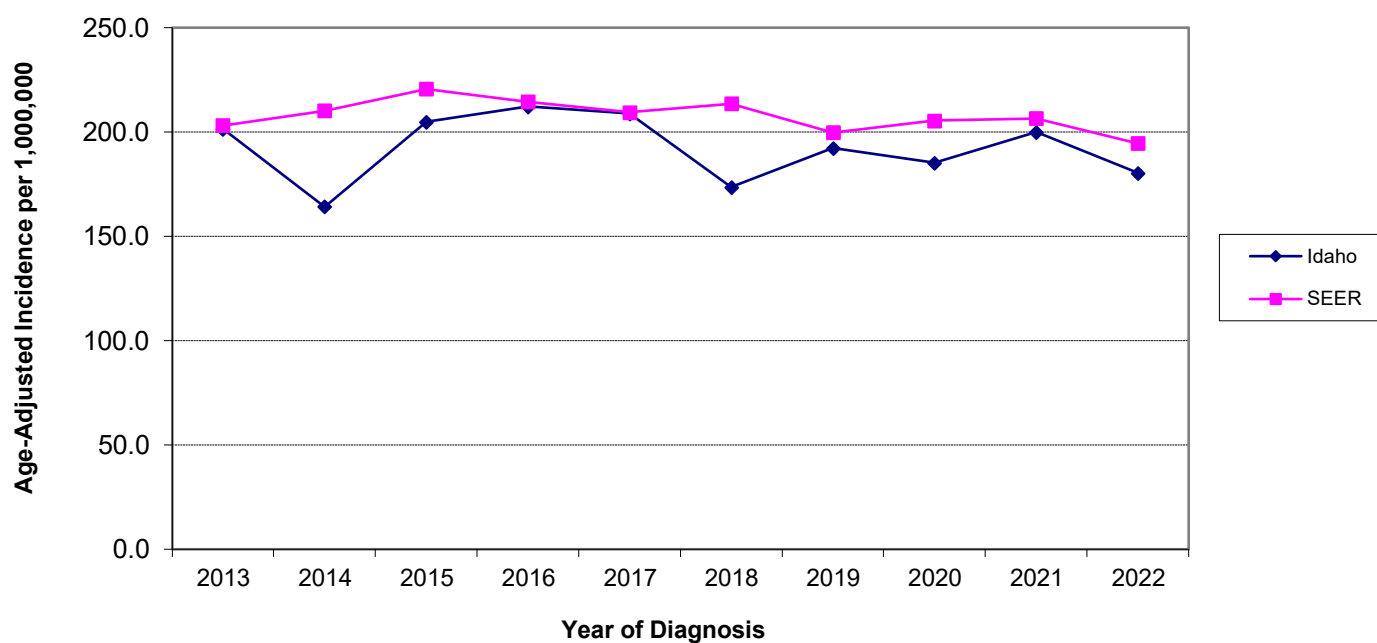


Table 4. Pediatric (Ages 0-19) Cancer Incidence in Idaho by Health District, Major Classification Categories, 2013-2022

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	174.2	142.0 - 211.6	102	152.6	109.2 - 207.8	41	194.7	166.5 - 226.3	170
I Leukemias, myeloproliferative & myelodysplastic diseases	44.3	28.9 - 64.9	26	31.3	13.4 - 61.9	8	58.3	43.4 - 76.7	51
II Lymphomas and reticuloendothelial neoplasms	20.3	10.5 - 35.5	12	16.5	4.5 - 42.0	4	28.7	18.6 - 42.5	25
III CNS and misc intracranial and intraspinal neoplasms	42.4	27.4 - 62.6	25	46.3	23.8 - 81.3	12	47.7	34.4 - 64.5	42
IV Neuroblastoma and other peripheral nervous cell tumors	5.3	1.1 - 15.5	3	8.5	1.0 - 30.1	2	8.4	3.4 - 17.2	7
V Retinoblastoma	0.0	0.0 - 6.4	0	0.0	0.0 - 14.8	0	1.3	0.0 - 6.7	1
VI Renal tumors	3.4	0.4 - 12.5	2	3.2	0.1 - 20.2	1	1.2	0.0 - 6.5	1
VII Hepatic tumors	3.7	0.5 - 13.1	2	0.0	0.0 - 14.8	0	0.0	0.0 - 4.3	0
VIII Malignant bone tumors	5.2	1.1 - 15.1	3	0.0	0.0 - 14.8	0	8.9	3.8 - 17.6	8
IX Soft tissue and other extrasosseous sarcomas	8.5	2.8 - 20.0	5	10.5	2.1 - 32.0	3	10.2	4.7 - 19.5	9
X Germ cell & trophoblastic tumors & neoplasms of gonads	11.9	4.8 - 24.6	7	9.6	2.0 - 30.0	3	15.0	8.0 - 25.7	13
XI Other malignant epithelial neoplasms and melanomas	29.2	17.0 - 46.7	17	26.6	11.5 - 53.8	8	14.9	7.9 - 25.5	13
XII Other and unspecified malignant neoplasms	0.0	0.0 - 6.4	0	0.0	0.0 - 14.8	0	0.0	0.0 - 4.3	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	212.9	188.9 - 239.1	287	183.9	151.4 - 221.4	112	207.6	170.9 - 249.9	112	177.1	149.2 - 208.7	146
I Leukemias...	38.4	28.6 - 50.6	51	34.2	21.2 - 52.3	21	38.6	23.9 - 59.0	21	43.5	29.9 - 61.1	33
II Lymphomas...	37.9	28.3 - 49.7	52	21.5	11.4 - 36.7	13	33.1	19.6 - 52.3	18	14.9	7.9 - 25.8	13
III CNS and...	58.5	46.3 - 73.0	79	56.9	39.6 - 79.2	35	35.3	21.2 - 55.2	19	44.0	30.5 - 61.4	35
IV Neuroblastoma...	8.9	4.4 - 15.8	11	6.4	1.7 - 16.5	4	13.3	5.4 - 27.4	7	4.1	0.8 - 11.8	3
V Retinoblastoma	0.8	0.0 - 4.2	1	1.8	0.0 - 9.6	1	1.9	0.0 - 10.5	1	2.7	0.3 - 9.6	2
VI Renal tumors	7.9	3.8 - 14.6	10	11.4	4.6 - 23.6	7	11.5	4.2 - 24.9	6	9.0	3.6 - 18.5	7
VII Hepatic tumors	3.9	1.2 - 9.0	5	0.0	0.0 - 6.1	0	3.6	0.4 - 13.3	2	1.4	0.0 - 7.3	1
VIII Malignant bone tumors	6.6	3.0 - 12.5	9	11.3	4.5 - 23.4	7	7.3	2.0 - 18.8	4	9.4	4.0 - 18.7	8
IX Soft tissue...	12.8	7.5 - 20.6	17	8.2	2.7 - 19.2	5	16.8	7.7 - 31.8	9	11.8	5.6 - 22.0	10
X Germ cell...	12.2	7.1 - 19.5	17	11.9	4.8 - 24.4	7	14.9	6.4 - 29.4	8	7.1	2.8 - 15.2	7
XI Other malig epithelial...	25.1	17.5 - 35.0	35	20.4	10.5 - 35.6	12	29.3	16.8 - 47.7	16	27.8	18.1 - 41.3	26
XII Other/unspecified...	0.0	0.0 - 2.8	0	0.0	0.0 - 6.1	0	2.0	0.1 - 10.8	1	1.4	0.0 - 7.3	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, 2013-2023			U.S., 2013-2023		
	Rate	Deaths	Pop	Rate	Deaths	Pop
Total	21.8	120	5,569,658	23.9	21,841	910,182,020
2013	12.7	6	478,304	25.5	2,116	82,797,930
2014	18.9	9	482,679	24.6	2,038	82,828,260
2015	14.6	7	487,204	24.6	2,047	82,974,459
2016	26.8	13	494,380	25.4	2,118	83,184,415
2017	18.4	9	502,272	23.7	1,977	83,308,218
2018	30.3	15	507,269	24.1	2,010	83,321,994
2019	40.1	20	513,133	22.7	1,889	83,213,818
2020	14.1	7	517,828	22.4	1,860	82,873,432
2021	26.8	14	526,886	22.8	1,882	82,201,873
2022	17.7	10	529,777	23.4	1,933	81,903,660
2023	19.0	10	529,926	24.0	1,971	81,573,961

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

Figure 3. Trends in Pediatric Cancer Mortality Rates

