

# PEDIATRIC CANCER IN IDAHO 1999-2008

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The Idaho Hospital Association (IHA) contracts with, and receives funding from, the Idaho Department of Health and Welfare, Division of Public Health, to provide a statewide cancer surveillance system: the Cancer Data Registry of Idaho (CDRI).

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

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HEALTH & WELFARE

# Pediatric Cancer in Idaho, 1999-2008

Although relatively rare in comparison with cancer in older adults, cancer is the second leading cause of death in persons aged 1-14 years. 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, the tumors diagnosed in children frequently involve the hematopoietic and central nervous systems or are of mesenchymal origin. In contrast, malignancies of epithelial tissues, which are predominant in adults, are uncommon in children. Similar to 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 U.S. Centers for Disease Control and Prevention's National Program of Cancer Registries (NPCR).<sup>1-2</sup> SEER currently collects and publishes cancer incidence and survival data from population-based cancer registries covering approximately 26 percent of the U.S. population and is considered the standard for quality among cancer registries around the world. NPCR supports central cancer registries in 45 states, the District of Columbia, Puerto Rico, and the U.S. Pacific Island Jurisdictions. These data represent 96% of the U.S. population. Together, NPCR and SEER collect data for the entire U.S. population. NPCR and SEER data are used in this report for pediatric cancer incidence rankings by state.

## **METHODS**

The data analyzed for this report include cancers diagnosed between 1999 and 2008 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.<sup>3</sup>

A total of 856 cases were diagnosed among Idaho resident children under the age of 20 between 1999 and 2008. This number includes 781 malignant cancers and 59 benign and borderline behavior neoplasms. It was not possible to assign a group code of the ICCC system to 2 cases. Fourteen cases were in situ, which are not included in the ICCC system. Health District was assigned from county of residence at time of diagnosis. All rates presented were calculated per million population, and are averages for the period 1999 through 2008 (rates per million, rather than per 100,000, are commonly used for pediatric cancers). Age-adjustment was performed using the direct method to the 2000 U.S. standard population. Cancer incidence, mortality and survival statistics were calculated using SEER\*Stat.<sup>4</sup> State rankings were obtained through SEER\*Stat<sup>1,4</sup> and CDC WONDER.<sup>2</sup>

## RESULTS

A total of 840 cases that met the study criteria were diagnosed among Idaho residents aged less than 20 years between 1999 and 2008, yielding an overall age-adjusted rate of 192.6 cases per million population. In comparison, the SEER rate for Whites was 195.1 cases per million population for 2006-2008. The distribution of pediatric cancers by ICCC grouping was very similar for Idaho and SEER Regions. Idaho's pediatric rate of astrocytomas was about 30% higher than the rate for SEER Whites, but the confidence intervals for the two rates overlapped. For no ICCC grouping did Idaho show a statistically significantly higher rate than SEER Regions based on the comparison of 95% confidence intervals.

For all races combined, Idaho ranked 10<sup>th</sup> highest among states in pediatric (ages 0-19) cancer incidence 1999-2008.<sup>1,2</sup> This result is partially related to differences in the distribution of race by state. Pediatric cancer incidence is higher among Whites, and Idaho has a higher proportion of White residents than many states. Among Whites, Idaho ranked 16<sup>th</sup> in pediatric cancer incidence.

About 80% of children aged less than 20 years diagnosed with malignant cancer survived at least 5 years after their diagnosis, both in Idaho and SEER Regions. For no ICCC major classification category, nor overall, was there a statistically significant difference in 5-year relative survival between Idaho and SEER cases.

Pediatric cancer incidence increased at a rate of about 0.8% per year in Idaho from 1970 to 2008. This parallels the long term increase observed in SEER Regions from 1973 to 2008 of about 0.7% per year.

Health District 2 had statistically significantly lower ( $p < .05$ ) rates of ICCC major classification category I (leukemias, myeloproliferative & myelodysplastic diseases) and all sites combined than the State of Idaho. Health District 5 had a statistically significantly higher ( $p < .05$ ) rate of ICCC major classification category II (lymphomas and reticuloendothelial neoplasms) than the State of Idaho. Health District 4 had a statistically significantly higher rate and Health District 6 had a statistically significantly lower rate of ICCC major classification category XI (other malignant epithelial neoplasms and melanomas) than the State of Idaho. This may indicate underreporting of melanomas and thyroid carcinomas from Health District 6. CDRI is conducting two surveys in 2011 to investigate underreporting of physician and pathology laboratory cases in Health Districts 6 and 7. Health District 7 had a statistically significantly lower ( $p < .05$ ) rate of ICCC major classification category X (germ cell & trophoblastic tumors & neoplasms of gonads) than the State of Idaho. For no other ICCC major classification category was there a statistically significant difference between any health district and the State of Idaho.

From 1999 to 2009, 131 of Idaho's children aged 0-19 died from some form of cancer.<sup>5</sup> The leading types of cancer mortality were leukemia and brain and other central nervous system. While pediatric cancer incidence rates have increased over time, mortality rates have decreased. From 1975-2007, pediatric cancer mortality rates have decreased about 2% per year, in Idaho and the U.S. The

annual rates plotted for Idaho demonstrate large year-to-year variability that is expected due to the relatively small numbers of deaths per year. Idaho ranked 32<sup>nd</sup> highest among states in pediatric (ages 0-19) cancer mortality 1999-2007.

## **CONCLUSIONS**

These data demonstrate strong similarity in pediatric cancer incidence and survival patterns between Idaho and SEER Regions. Compared with cancer in adults, there is less geographic variability in pediatric cancer incidence. Nonetheless, Idaho continues to rank in the highest tertile among states in terms of pediatric cancer incidence.

Largely because of improvements in therapy for pediatric cancers, there has been a decrease in mortality rates over time. Data collected by CDRI for 2009 show that approximately two-thirds of pediatric patients participated in clinical trials at Idaho institutions. In addition, many pediatric cases are treated out-of-state, and may be enrolled in clinical trials through out-of-state treatment facilities. While this clinical trial participation rate is much higher than that for adults (3%), there remains room for improvement.

Based upon the results in this report, the Cancer Data Registry of Idaho will continue to monitor pediatric central nervous system cancer incidence statewide.

**Pediatric Cancer Incidence in Idaho and SEER Regions (Ages 0-19)**

Site/Type of Cancer	Idaho 1999-2008			SEER 2006-2008		
	Rate	Cases	Pop	Rate	Cases	Pop
All Sites Combined	192.6	840	4,316,470	195.1	4,898	24,889,977
I Leukemias, myeloproliferative & myelodysplastic diseases	43.2	188	4,316,470	49.6	1,255	24,889,977
I(a) Lymphoid leukemias	30.7	133	4,316,470	38.1	966	24,889,977
I(b) Acute myeloid leukemias	7.6	33	4,316,470	7.3	184	24,889,977
I(c) Chronic myeloproliferative diseases	2.1	9	4,316,470	1.8	45	24,889,977
I(d) Myelodysplastic syndrome and other myeloproliferative	1.8	8	4,316,470	1.3	34	24,889,977
I(e) Unspecified and other specified leukemias	1.1	5	4,316,470	1.1	26	24,889,977
II Lymphomas and reticuloendothelial neoplasms	24.3	106	4,316,470	25.4	628	24,889,977
II(a) Hodgkin lymphomas	14.0	61	4,316,470	13.2	325	24,889,977
II(b) Non-Hodgkin lymphomas (except Burkitt lymphoma)	7.1	31	4,316,470	8.9	221	24,889,977
II(c) Burkitt lymphoma	2.1	9	4,316,470	2.4	60	24,889,977
II(d) Miscellaneous lymphoreticular neoplasms	0.9	4	4,316,470	0.6	15	24,889,977
II(e) Unspecified lymphomas	0.2	1	4,316,470	0.3	7	24,889,977
III CNS and misc intracranial and intraspinal neoplasms	45.8	198	4,316,470	43.1	1,077	24,889,977
III(a) Ependymomas and choroid plexus tumor	3.9	17	4,316,470	4.5	113	24,889,977
III(b) Astrocytomas	18.6	80	4,316,470	14.1	353	24,889,977
III(c) Intracranial and intraspinal embryonal tumors	7.8	34	4,316,470	6.6	168	24,889,977
III(d) Other gliomas	6.0	26	4,316,470	5.7	142	24,889,977
III(e) Other specified intracranial/intraspinal neoplasms	9.3	40	4,316,470	11.1	275	24,889,977
III(f) Unspecified intracranial and intraspinal neoplasms	0.2	1	4,316,470	1.0	26	24,889,977
IV Neuroblastoma and other peripheral nervous cell tumors	7.7	34	4,316,470	7.6	202	24,889,977
IV(a) Neuroblastoma and ganglioneuroblastoma	7.2	32	4,316,470	7.4	196	24,889,977
IV(b) Other peripheral nervous cell tumors	0.5	2	4,316,470	0.2	6	24,889,977
V Retinoblastoma	3.8	17	4,316,470	2.5	67	24,889,977
VI Renal tumors	6.8	30	4,316,470	6.1	158	24,889,977
VI(a) Nephroblastoma and other nonepithelial renal tumors	6.5	29	4,316,470	5.7	148	24,889,977
VI(b) Renal carcinomas	0.2	1	4,316,470	0.4	10	24,889,977
VI(c) Unspecified malignant renal tumors	0.0	0	4,316,470	0.0	0	24,889,977
VII Hepatic tumors	1.6	7	4,316,470	3.0	79	24,889,977
VII(a) Hepatoblastoma	1.1	5	4,316,470	2.1	57	24,889,977
VII(b) Hepatic carcinomas	0.5	2	4,316,470	0.9	22	24,889,977
VII(c) Unspecified malignant hepatic tumors	0.0	0	4,316,470	0.0	0	24,889,977
VIII Malignant bone tumors	10.7	46	4,316,470	10.0	244	24,889,977
VIII(a) Osteosarcomas	7.0	30	4,316,470	4.9	119	24,889,977
VIII(b) Chondrosarcomas	0.2	1	4,316,470	0.4	9	24,889,977
VIII(c) Ewing tumor and related sarcomas of bone	3.0	13	4,316,470	4.1	100	24,889,977
VIII(d) Other specified malignant bone tumors	0.0	0	4,316,470	0.6	14	24,889,977
VIII(e) Unspecified malignant bone tumors	0.4	2	4,316,470	0.1	2	24,889,977
IX Soft tissue and other extraosseous sarcomas	14.5	63	4,316,470	16.0	400	24,889,977
IX(a) Rhabdomyosarcomas	5.6	24	4,316,470	4.5	112	24,889,977
IX(b) Fibrosarcomas, peripheral nerve & other fibrous	1.8	8	4,316,470	4.0	100	24,889,977
IX(c) Kaposi sarcoma	0.0	0	4,316,470	0.0	1	24,889,977
IX(d) Other specified soft tissue sarcomas	4.5	20	4,316,470	6.7	165	24,889,977
IX(e) Unspecified soft tissue sarcomas	2.5	11	4,316,470	0.9	22	24,889,977
X Germ cell & trophoblastic tumors & neoplasms of gonads	10.6	47	4,316,470	13.2	329	24,889,977
X(a) Intracranial & intraspinal germ cell tumors	0.7	3	4,316,470	1.8	43	24,889,977
X(b) Extracranial & extragonadal germ cell tumors	1.6	7	4,316,470	1.4	37	24,889,977
X(c) Malignant gonadal germ cell tumors	7.7	34	4,316,470	9.5	236	24,889,977
X(d) Gonadal carcinomas	0.7	3	4,316,470	0.5	12	24,889,977
X(e) Other and unspecified malignant gonadal tumors	0.0	0	4,316,470	0.0	1	24,889,977

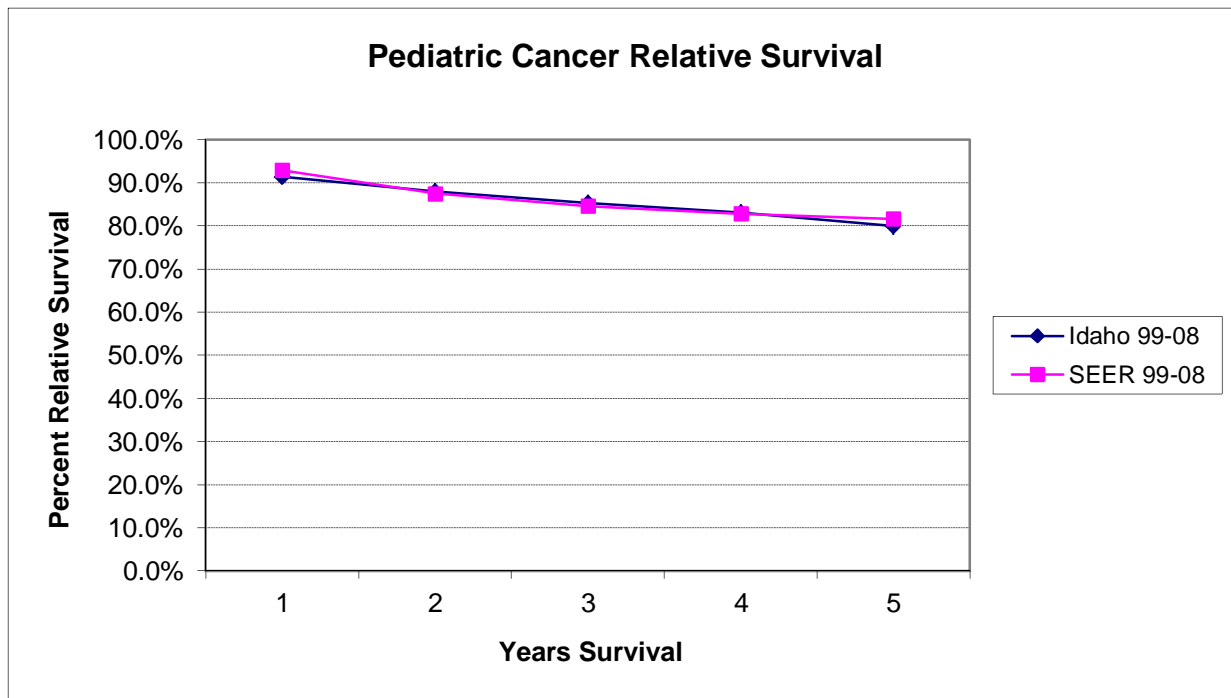
**Pediatric Cancer Incidence in Idaho and SEER Regions (Ages 0-19) - continued**

Site/Type of Cancer	Idaho 1999-2008			SEER 2006-2008		
	Rate	Cases	Pop	Rate	Cases	Pop
XI Other malignant epithelial neoplasms and melanomas	23.1	101	4,316,470	18.2	451	24,889,977
XI(a) Adrenocortical carcinomas	0.0	0	4,316,470	0.1	3	24,889,977
XI(b) Thyroid carcinomas	9.1	40	4,316,470	7.8	193	24,889,977
XI(c) Nasopharyngeal carcinomas	0.2	1	4,316,470	0.1	2	24,889,977
XI(d) Malignant melanomas	8.0	35	4,316,470	6.5	161	24,889,977
XI(e) Skin carcinomas	0.0	0	4,316,470	0.0	1	24,889,977
XI(f) Other and unspecified carcinomas	5.8	25	4,316,470	3.7	91	24,889,977
XII Other and unspecified malignant neoplasms	0.7	3	4,316,470	0.3	8	24,889,977
XII(a) Other specified malignant tumors	0.4	2	4,316,470	0.2	5	24,889,977
XII(b) Other unspecified malignant tumors	0.2	1	4,316,470	0.1	3	24,889,977
Not classified by ICCC or in situ	3.6	16	4,316,470	5.0	125	24,889,977

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

SEER data are for White race. Cases and rates are for benign, borderline, and malignant behavior.

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



### Five-Year Relative Cancer Survival by Major ICCC Classification Category

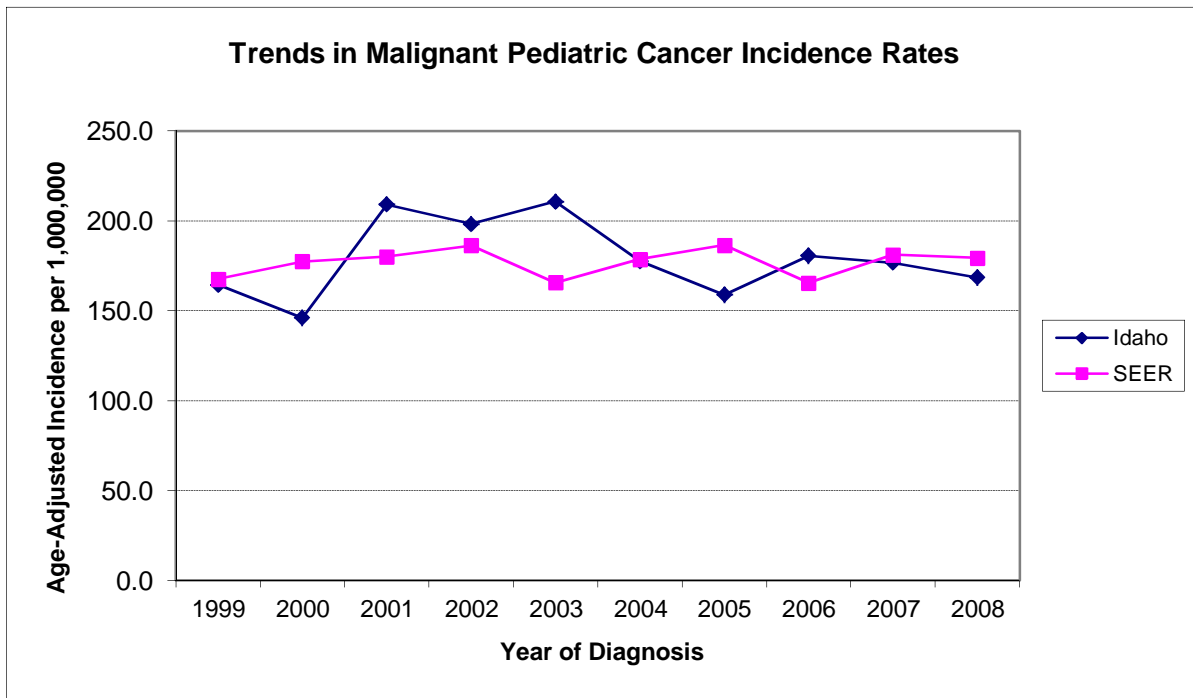
Site/Type of Cancer	Idaho 1999-2008			SEER 1999-2008		
	Cases	% Survival	95% CI	Cases	% Survival	95% CI
All Sites Combined	750	79.9%	76.1% - 83.2%	14,337	81.6%	80.8% - 82.3%
I Leukemias, myeloproliferative & myelodysplastic diseases	183	80.6%	72.8% - 86.4%	3,971	80.0%	78.6% - 81.4%
II Lymphomas and reticuloendothelial neoplasms	99	94.8%	85.8% - 98.1%	1,993	90.5%	89.0% - 91.9%
III CNS and misc intracranial and intraspinal neoplasms	147	72.1%	62.8% - 79.5%	2,455	73.7%	71.7% - 75.6%
IV Neuroblastoma and other peripheral nervous cell tumors	30	64.4%	35.1% - 83.1%	684	76.5%	72.6% - 80.0%
V Retinoblastoma	15	80.3%	19.9% - 97.0%	283	99.0%	95.4% - 99.8%
VI Renal tumors	29	90.5%	66.1% - 97.6%	503	87.5%	83.8% - 90.5%
VII Hepatic tumors	7	38.2%	6.1% - 71.7%	207	69.6%	61.8% - 76.1%
VIII Malignant bone tumors	41	55.8%	31.3% - 74.6%	715	67.3%	62.9% - 71.3%
IX Soft tissue and other extraosseous sarcomas	54	80.4%	62.8% - 90.2%	997	72.3%	69.0% - 75.4%
X Germ cell & trophoblastic tumors & neoplasms of gonads	47	85.4%	69.1% - 93.5%	1,083	91.3%	89.2% - 93.1%
XI Other malignant epithelial neoplasms and melanomas	95	85.5%	72.5% - 92.6%	1,407	91.6%	89.8% - 93.1%
XII Other and unspecified malignant neoplasms	3	100.0%	+ - +	39	73.0%	54.0% - 85.2%

+ The statistic could not be calculated.

## Malignant Pediatric Cancer Incidence in Idaho and SEER Regions (Ages 0-19)

Year of Diagnosis	Idaho 1999-2008			SEER 1999-2008		
	Rate	Cases	Pop	Rate	Cases	Pop
Total	179.0	781	4,316,470	176.9	14,783	83,211,476
1999	164.5	69	411,481	167.7	1,393	8,317,117
2000	146.2	61	415,345	177.4	1,477	8,339,416
2001	209.2	88	418,612	180.2	1,506	8,355,249
2002	198.2	84	420,738	186.4	1,556	8,343,056
2003	210.7	90	422,969	165.7	1,383	8,332,503
2004	177.6	77	427,516	178.7	1,497	8,329,748
2005	159.0	70	435,886	186.5	1,562	8,304,410
2006	180.6	82	445,358	165.6	1,386	8,294,242
2007	176.7	82	455,480	181.2	1,516	8,291,023
2008	168.6	78	463,085	179.5	1,507	8,304,712

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





**Pediatric Cancer Incidence in Idaho (Ages 0-19) by Health District, Major Classification Categories**

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	178.9	144.5 - 219.0	94	108.1	71.8 - 156.5	29	202.8	171.0 - 238.7	145
I Leukemias, myeloproliferative & myelodysplastic diseases	54.8	36.4 - 79.1	28	12.7	2.6 - 36.6	3	56.5	40.5 - 76.7	41
II Lymphomas and reticuloendothelial neoplasms	22.3	11.5 - 39.1	12	12.6	3.3 - 34.3	4	24.4	14.2 - 38.9	17
III CNS and misc intracranial and intraspinal neoplasms	32.1	18.7 - 51.5	17	34.8	15.7 - 66.9	9	48.5	33.7 - 67.4	35
IV Neuroblastoma and other peripheral nervous cell tumors	8.0	2.2 - 20.3	4	13.0	2.7 - 37.3	3	3.7	0.8 - 11.2	3
V Retinoblastoma	2.0	0.1 - 10.9	1	0.0	0.0 - 14.8	0	2.5	0.3 - 9.4	2
VI Renal tumors	9.8	3.2 - 22.9	5	0.0	0.0 - 14.8	0	12.9	6.2 - 23.8	10
VII Hepatic tumors	0.0	0.0 - 7.1	0	0.0	0.0 - 14.8	0	0.0	0.0 - 5.1	0
VIII Malignant bone tumors	9.3	3.0 - 21.8	5	10.9	2.2 - 32.9	3	5.9	1.6 - 14.8	4
IX Soft tissue and other extraosseous sarcomas	7.4	2.0 - 19.0	4	4.3	0.1 - 23.2	1	5.7	1.6 - 14.6	4
X Germ cell & trophoblastic tumors & neoplasms of gonads	5.9	1.2 - 17.2	3	10.0	2.0 - 31.1	3	17.6	9.1 - 30.6	12
XI Other malignant epithelial neoplasms and melanomas	25.5	13.9 - 43.0	14	9.7	1.9 - 30.4	3	25.1	14.6 - 40.0	17
XII Other and unspecified malignant neoplasms	1.8	0.0 - 10.3	1	0.0	0.0 - 14.8	0	0.0	0.0 - 5.1	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	221.8	194.8 - 251.5	244	191.9	156.5 - 232.9	102	189.6	155.1 - 229.6	105	184.8	152.7 - 221.7	118
I Leukemias...	47.4	35.5 - 62.0	53	39.4	24.4 - 60.2	21	31.5	18.3 - 50.4	17	40.7	26.2 - 60.1	25
II Lymphomas...	19.4	12.0 - 29.6	21	41.6	26.1 - 62.9	22	25.2	13.8 - 42.4	14	23.1	12.9 - 38.4	15
III CNS and...	47.9	35.8 - 62.6	53	45.1	28.9 - 67.1	24	56.1	38.1 - 79.7	31	46.9	31.3 - 67.4	29
IV Neuroblastoma...	9.3	4.6 - 16.8	11	1.8	0.0 - 10.2	1	12.5	5.0 - 25.8	7	8.1	2.6 - 18.8	5
V Retinoblastoma	5.8	2.3 - 12.0	7	3.7	0.4 - 13.4	2	3.7	0.4 - 13.3	2	4.7	1.0 - 13.7	3
VI Renal tumors	7.8	3.5 - 14.8	9	1.8	0.0 - 10.2	1	3.5	0.4 - 12.9	2	5.0	1.0 - 14.5	3
VII Hepatic tumors	4.3	1.4 - 10.2	5	3.7	0.4 - 13.4	2	0.0	0.0 - 6.7	0	0.0	0.0 - 5.9	0
VIII Malignant bone tumors	11.3	5.9 - 19.7	12	18.9	9.1 - 34.7	10	12.7	5.1 - 26.2	7	8.4	2.7 - 19.6	5
IX Soft tissue...	21.2	13.4 - 31.8	23	11.4	4.2 - 24.8	6	21.8	11.3 - 38.1	12	20.0	10.6 - 34.3	13
X Germ cell...	13.1	7.2 - 22.0	14	5.6	1.2 - 16.3	3	17.3	8.3 - 32.0	10	2.6	0.3 - 10.2	2
XI Other malig epithelial...	34.4	24.1 - 47.6	36	18.9	9.1 - 34.8	10	5.2	1.1 - 15.4	3	22.5	12.8 - 36.9	16
XII Other/unspecified...	0.0	0.0 - 3.3	0	0.0	0.0 - 6.9	0	0.0	0.0 - 6.7	0	2.9	0.3 - 10.9	2

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

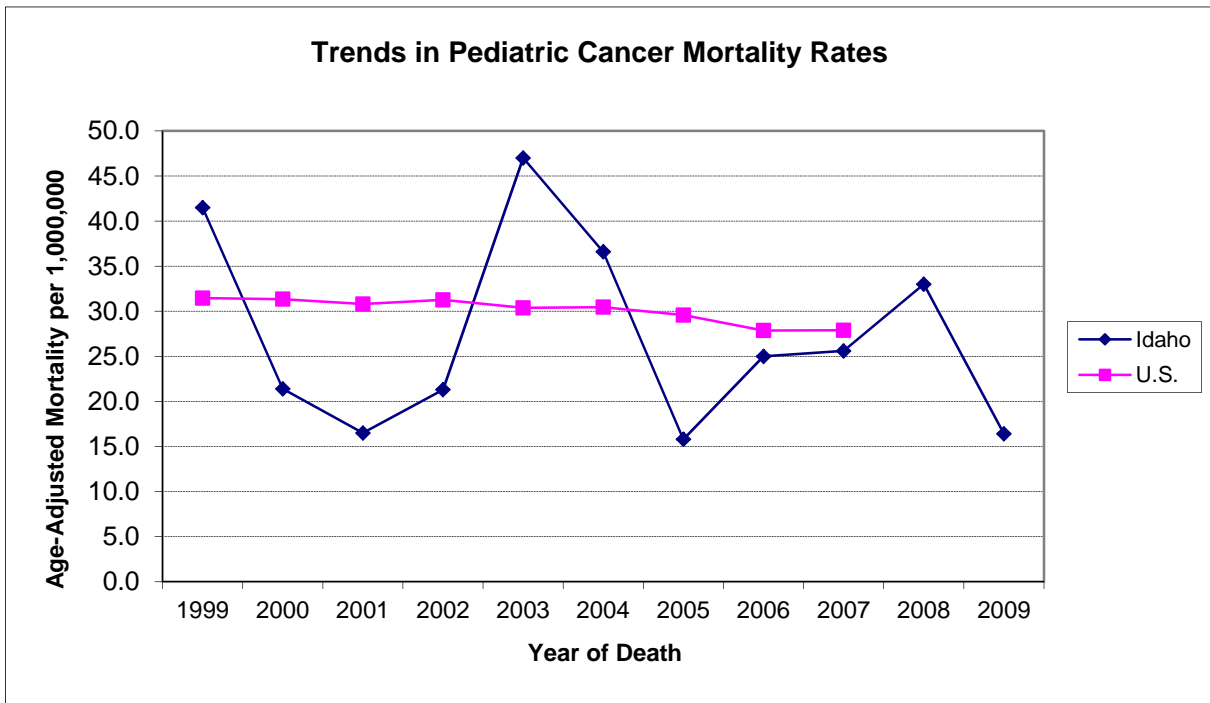
Confidence intervals (CIs) are 95% for rates.

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

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

Year of Death	Idaho 1999-2009			U.S. 1999-2007		
	Rate	Deaths	Pop	Rate	Deaths	Pop
Total	27.2	131	4,783,338	30.1	22,017	730,660,665
1999	41.5	17	411,481	31.5	2,517	80,039,970
2000	21.4	9	415,345	31.3	2,523	80,539,363
2001	16.5	7	418,612	30.8	2,487	80,763,447
2002	21.3	9	420,738	31.3	2,530	80,943,001
2003	47.0	20	422,969	30.4	2,466	81,132,452
2004	36.6	16	427,516	30.5	2,481	81,414,417
2005	15.8	7	435,886	29.6	2,420	81,624,286
2006	25.0	11	445,358	27.9	2,291	81,899,061
2007	25.6	12	455,480	27.9	2,302	82,304,668
2008	33.0	15	463,085			
2009	16.4	8	466,868			

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



## Appendix A

### Site/histology recode based on International Classification of Childhood Cancer, Third edition (ICCC-3) based on ICD-O-3<sup>1</sup>

Site Group	ICD-O-3 Histology (Type)	ICD-O-2/3 Site	Recode
<b>I Leukemias, myeloproliferative diseases, and myelodysplastic diseases</b>			
<b>(a) Lymphoid leukemias</b>	9820, 9823, 9826, 9827, 9831-9837, 9940, 9948	C000-C809	011
<b>(b) Acute myeloid leukemias</b>	9840, 9861, 9866, 9867, 9870-9874, 9891, 9895-9897, 9910, 9920, 9931	C000-C809	012
<b>(c) Chronic myeloproliferative diseases</b>	9863, 9875, 9876, 9950, 9960-9964	C000-C809	013
<b>(d) Myelodysplastic syndrome and other myeloproliferative diseases</b>	9945, 9946, 9975, 9980, 9982-9987, 9989	C000-C809	014
<b>(e) Unspecified and other specified leukemias</b>	9800, 9801, 9805, 9860, 9930	C000-C809	015
<b>II Lymphomas and reticuloendothelial neoplasms</b>			
<b>(a) Hodgkin lymphomas</b>	9650-9655, 9659, 9661-9665, 9667	C000-C809	021
<b>(b) Non-Hodgkin lymphomas (except Burkitt lymphoma)</b>	9591, 9670, 9671, 9673, 9675, 9678-9680, 9684, 9689-9691, 9695, 9698-9702, 9705, 9708, 9709, 9714, 9716-9719, 9727-9729, 9731-9734, 9760-9762, 9764-9769, 9970	C000-C809	022
<b>(c) Burkitt lymphoma</b>	9687	C000-C809	023
<b>(d) Miscellaneous lymphoreticular neoplasms</b>	9740-9742, 9750, 9754-9758	C000-C809	024
<b>(e) Unspecified lymphomas</b>	9590, 9596	C000-C809	025
<b>III CNS and miscellaneous intracranial and intraspinal neoplasms</b>			
<b>(a) Ependymomas and choroid plexus tumor</b>	9383, 9390-9394	C000-C809	031
<b>(b) Astrocytomas</b>	9380	C723	032
	9384, 9400-9411, 9420, 9421-9424, 9440-9442	C000-C809	032
<b>(c) Intracranial and intraspinal embryonal tumors</b>	9470-9474, 9480, 9508	C000-C809	033
	9501-9504	C700-C729	033
<b>(d) Other gliomas</b>	9380	C700-C722, C724-C729, C751, C753	034
	9381, 9382, 9430, 9444, 9450, 9451, 9460	C000-C809	034

<b>(e) Other specified intracranial and intraspinal neoplasms</b>	8270-8281, 8300, 9350-9352, 9360-9362, 9412, 9413, 9492, 9493, 9505-9507, 9530-9539, 9582	C000-C809	035
<b>(f) Unspecified intracranial and intraspinal neoplasms</b>	8000-8005	C700-C729, C751-C753	036
<b>IV Neuroblastoma and other peripheral nervous cell tumors</b>			
<b>(a) Neuroblastoma and ganglioneuroblastoma</b>	9490, 9500	C000-C809	041
<b>(b) Other peripheral nervous cell tumors</b>	8680-8683, 8690-8693, 8700, 9520-9523	C000-C809	042
	9501-9504	C000-C699, C739-C768, C809	042
<b>V Retinoblastoma</b>	9510-9514	C000-C809	050
<b>VI Renal tumors</b>			
<b>(a) Nephroblastoma and other nonepithelial renal tumors</b>	8959, 8960, 8964-8967	C000-C809	061
	8963, 9364	C649	061
<b>(b) Renal carcinomas</b>	8010-8041, 8050-8075, 8082, 8120-8122, 8130-8141, 8143, 8155, 8190-8201, 8210, 8211, 8221-8231, 8240, 8241, 8244-8246, 8260-8263, 8290, 8310, 8320, 8323, 8401, 8430, 8440, 8480-8490, 8504, 8510, 8550, 8560-8576	C649	062
	8311, 8312, 8316-8319, 8361	C000-C809	062
<b>(c) Unspecified malignant renal tumors</b>	8000-8005	C649	063
<b>VII Hepatic tumors</b>			
<b>(a) Hepatoblastoma</b>	8970	C000-C809	071
<b>(b) Hepatic carcinomas</b>	8010-8041, 8050-8075, 8082, 8120-8122, 8140, 8141, 8143, 8155, 8190-8201, 8210, 8211, 8230, 8231, 8240, 8241, 8244-8246, 8260-8264, 8310, 8320, 8323, 8401, 8430, 8440, 8480-8490, 8504, 8510, 8550, 8560-8576	C220, C221	072
	8160-8180	C000-C809	072
<b>(c) Unspecified malignant hepatic tumors</b>	8000-8005	C220, C221	073
<b>VIII Malignant bone tumors</b>			
<b>(a) Osteosarcomas</b>	9180-9187, 9191-9195, 9200	C400-C419, C760-C768, C809	081
<b>(b) Chondrosarcomas</b>	9210, 9220, 9240	C400-C419, C760-C768, C809	082
	9221, 9230, 9241-9243	C000-C809	082
<b>(c) Ewing tumor and related sarcomas of bone</b>	9260	C400-C419, C760-C768, C809	083
	9363-9365	C400-C419	083

<b>(d) Other specified malignant bone tumors</b>	8810, 8811, 8823, 8830	C400-C419	084
	8812, 9250, 9261, 9262, 9270-9275, 9280-9282, 9290, 9300-9302, 9310-9312, 9320-9322, 9330, 9340-9342, 9370-9372	C000-C809	084
<b>(e) Unspecified malignant bone tumors</b>	8000-8005, 8800, 8801, 8803-8805	C400-C419	085
<b>IX Soft tissue and other extraosseous sarcomas</b>			
<b>(a) Rhabdomyosarcomas</b>	8900-8905, 8910, 8912, 8920, 8991	C000-C809	091
<b>(b) Fibrosarcomas, peripheral nerve sheath tumors, and other fibrous neoplasms</b>	8810, 8811, 8813-8815, 8821, 8823, 8834-8835	C000-C399, C440-C768, C809	092
	8820, 8822, 8824-8827, 9150, 9160, 9491, 9540-9571, 9580	C000-C809	092
<b>(c) Kaposi sarcoma</b>	9140	C000-C809	093
<b>(d) Other specified soft tissue sarcomas</b>	8587, 8710-8713, 8806, 8831-8833, 8836, 8840-8842, 8850-8858, 8860-8862, 8870, 8880, 8881, 8890-8898, 8921, 8982, 8990, 9040-9044, 9120-9125, 9130-9133, 9135, 9136, 9141, 9142, 9161, 9170-9175, 9231, 9251, 9252, 9373, 9581	C000-C809	094
	8830	C000-C399, C440-C768, C809	094
	8963	C000-C639, C659-C699, C739-C768, C809	094
	9180, 9210, 9220, 9240	C490-C499	094
	9260	C000-C399, C470-C759	094
	9364	C000-C399, C470-C639, C659-C699, C739-C768, C809	094
	9365	C000-C399, C470-C639, C659-C768, C809	094
<b>(e) Unspecified soft tissue sarcomas</b>	8800-8805	C000-C399, C440-C768, C809	095
<b>X Germ cell tumors, trophoblastic tumors, and neoplasms of gonads</b>			
<b>(a) Intracranial and intraspinal germ cell tumors</b>	9060-9065, 9070-9072, 9080-9085, 9100, 9101	C700-C729, C751-C753	101
<b>(b) Malignant extracranial and extragonadal germ cell tumors</b>	9060-9065, 9070-9072, 9080-9085, 9100-9105	C000-C559, C570-C619, C630-C699, C739-C750, C754-C768, C809	102
<b>(c) Malignant gonadal germ cell tumors</b>	9060-9065, 9070-9073, 9080-9085, 9090, 9091, 9100, 9101	C569, C620-C629	103
<b>(d) Gonadal carcinomas</b>	8010-8041, 8050-8075, 8082, 8120-8122, 8130-8141, 8143, 8190-8201,	C569, C620-C629	104

	8210, 8211, 8221-8241, 8244-8246, 8260-8263, 8290, 8310, 8313, 8320, 8323, 8380-8384, 8430, 8440, 8480-8490, 8504, 8510, 8550, 8560-8573, 9000, 9014, 9015		
	8441-8444, 8450, 8451, 8460-8473	C000-C809	104
<b>(e) Other and unspecified malignant gonadal tumors</b>	8590-8671	C000-C809	105
	8000-8005	C569, C620-C629	105
<b>XI Other malignant epithelial neoplasms and malignant melanomas</b>			
<b>(a) Adrenocortical carcinomas</b>	8370-8375	C000-C809	111
<b>(b) Thyroid carcinomas</b>	8010-8041, 8050-8075, 8082, 8120-8122, 8130-8141, 8190, 8200, 8201, 8211, 8230, 8231, 8244-8246, 8260-8263, 8290, 8310, 8320, 8323, 8430, 8440, 8480, 8481, 8510, 8560-8573	C739	112
	8330-8337, 8340-8347, 8350	C000-C809	112
<b>(c) Nasopharyngeal carcinomas</b>	8010-8041, 8050-8075, 8082, 8083, 8120-8122, 8130-8141, 8190, 8200, 8201, 8211, 8230, 8231, 8244-8246, 8260-8263, 8290, 8310, 8320, 8323, 8430, 8440, 8480, 8481, 8500-8576	C110-C119	113
<b>(d) Malignant melanomas</b>	8720-8780, 8790	C000-C809	114
<b>(e) Skin carcinomas</b>	8010-8041, 8050-8075, 8078, 8082, 8090-8110, 8140, 8143, 8147, 8190, 8200, 8240, 8246, 8247, 8260, 8310, 8320, 8323, 8390-8420, 8430, 8480, 8542, 8560, 8570-8573, 8940, 8941	C440-C449	115
<b>(f) Other and unspecified carcinomas</b>	8010-8084, 8120-8157, 8190-8264, 8290, 8310, 8313-8315, 8320-8325, 8360, 8380-8384, 8430-8440, 8452-8454, 8480-8586, 8588-8589, 8940, 8941, 8983, 9000, 9010-9016, 9020, 9030	C000-C109, C129-C218, C239-C399, C480-C488, C500-C559, C570-C619, C630-C639, C659-C729, C750-C768, C809	116
<b>XII Other and unspecified malignant neoplasms</b>			
<b>(a) Other specified malignant tumors</b>	8930-8936, 8950, 8951, 8971-8981, 9050-9055, 9110	C000-C809	121
	9363	C000-C399, C470-C759	121
<b>(b) Other unspecified malignant tumors</b>	8000-8005	C000-C218, C239-C399, C420-C559, C570-C619, C630-C639, C659-C699, C739-C750, C754-C809	122
<b>Not Classified by ICC or in situ</b>			999

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