

## Supplementary Materials

**Supplementary Table 1. International Classification of Diseases, Sixth Revision (ICD-6) through Tenth Revision (ICD-10), codes for specific causes of death and calendar year of revisions\***

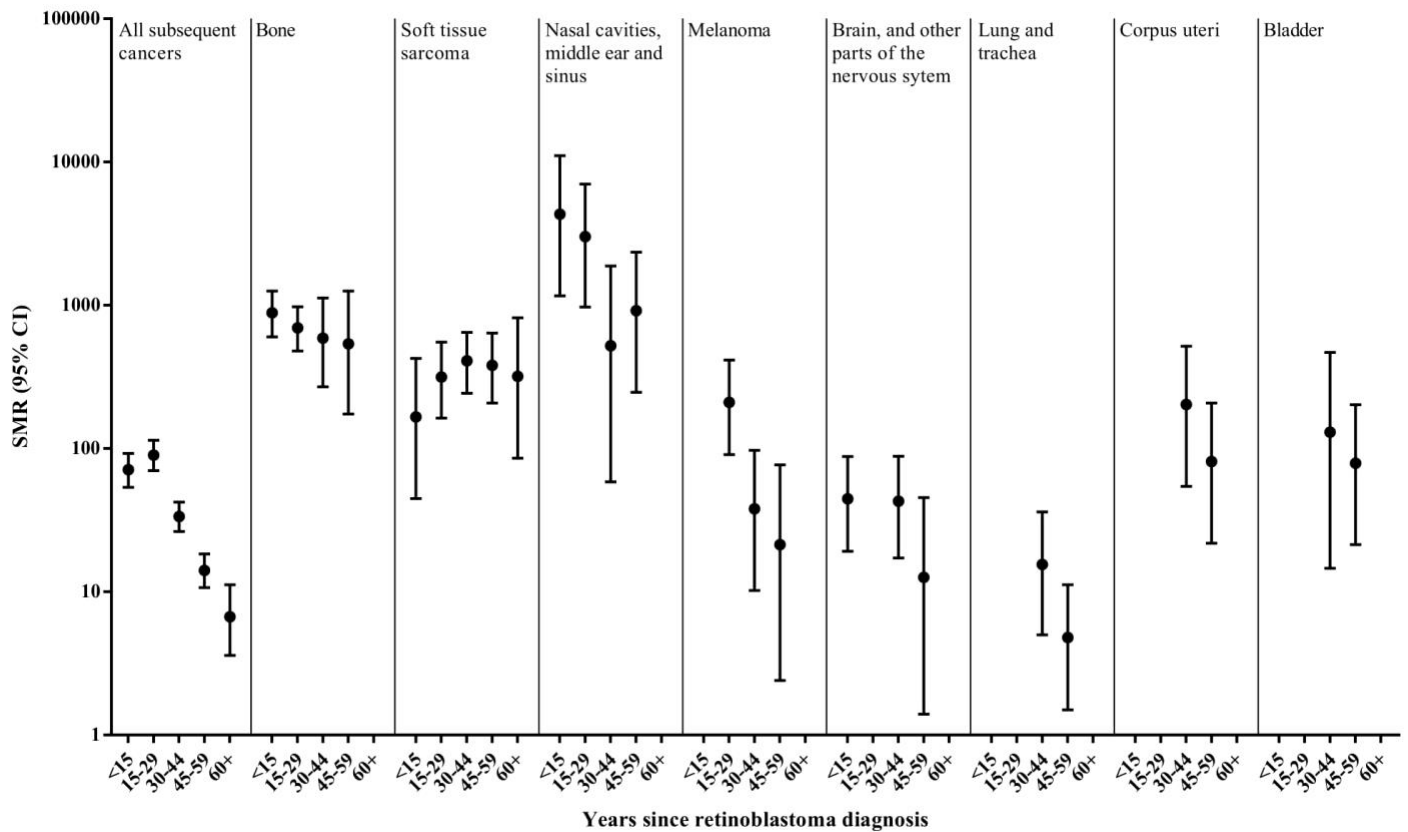
<b>Label</b>	<b>ICD-6 (1950-57)</b>	<b>ICD-7 (1958-67)</b>	<b>ICD-8 (1968-78)</b>	<b>ICD-9 (1979-98)</b>	<b>ICD-10 (1999-2014)</b>
All causes of death	all	all	all	all	all
Retinoblastoma	192	192	190	190.5,190.9	C69.2,C69.9
All malignant cancer excluding retinoblastoma	140-205 excl. 192	140-207 excl. 192	140-207 excl. 190	140-208 excl. 190.5,190.9	C00-C97 excl. C69.2,C69.9
Cancer of bone	196	196	170	170	C40-C41
Benign bone cancer	<not available>	<not available>	213	213	D16
Cancer of soft tissue/connective tissue	197	197	171	171	C49
Benign lipoma	<not available>	<not available>	214	214	D17
Benign soft tissue/connective tissue	<not available>	<not available>	215	215	D19-D21
Melanoma	190	190	172	172	C43
Benign melanoma (skin nevi)	<not available>	<not available>	216	216	D22
Cancer of brain/CNS, total	193	193	191-192	191-192	C70-C72
Benign brain/CNS, total	<not available>	<not available>	225	225	D32-D33
Benign CNS (meningioma)	<not available>	<not available>	225.2,225.4	225.2,225.4	D32
Cancer of brain	<not available>	193.0	191	191	C71
Benign brain	<not available>	<not available>	225.0	225.0	D33.0-D33.2
Cancer of pineal gland	<not available>	195.4	194	194	C75
Cancer of lung/trachea	162-163	162-163	162	162	C33-C34
Benign lung	<not available>	<not available>	212.3	212.3	D14.3
Cancer of nasal cavities/middle ear/sinus	160	160	160	160	C30-C31
Cancer of corpus uteri	172-174	172-174	182	179,182	C54-C55
Benign uterine leiomyoma	<not available>	<not available>	218	218	D25
Benign uterus other	<not available>	<not available>	219	219	D26
Cancer of ovary	175	175	183	183	C56-C57
Benign ovary	<not available>	<not available>	220	220	D27
Cancer of retroperitoneum	158	158	158	158	C48
Cancer of breast	170	170	174	174-175	C50

Benign breast	<not available>	<not available>	217	217	D24
Cancer of buccal cavity/pharynx	140-149	140-149	140-149	140-149	C00-C14
Benign buccal cavity	<not available>	<not available>	210	210	D10
Lymphoma and hematopoietic	200-205	200-207	200-207	200-208	C81-C96
Benign hemangioma and lymphangioma	<not available>	<not available>	227	228	D18
Cancer of thyroid	194	194	193	193	C73
Cancer of bladder	181	181	188	188	C67
Cancer of esophagus	150	150	150	150	C15
Cancer of stomach	151	151	151	151	C16
Cancer of large intestine	153	153	153	153	C18
Benign large intestine	<not available>	<not available>	211.3	211.3	D12.0-D12.6
Cancer of liver/gallbladder	155	155	155-156	155-156	C22-C24
Cancer of larynx	161	161	161	161	C32
Cancer of pancreas	157	157	157	157	C25
Cancer of testis	178	178	186	186	C62
Cancer of prostate	177	177	185	185	C61
Cancer of rectum	154	154	154	154 excl. 154.3	C19-C21
Benign rectum					
Cancer of kidney	180	180	189	189	C64-C66
All benign neoplasms	<not available>	<not available>	210-229	210-229	D10-D36
All non-cancer causes of death	<not available>	<not available>	001-139,240-999	000-139,240-999	A00-B99,D50-Y89
All infectious and parasitic disease	<not available>	<not available>	001-139	000-139	A00-B99
Allergic, endocrine, metabolic, and nutritional disease	<not available>	<not available>	240-279	240-279	E00-E89
Mental, psychoneurotic, and personality disorders	<not available>	<not available>	290-319	290-319	F00-F99
All diseases of nervous system and sense organs	<not available>	<not available>	320-389	320-389	G00-G99
All diseases of circulatory system	<not available>	<not available>	390-459	390-459	I00-I99
Arteriosclerotic heart disease including CHD	<not available>	<not available>	410-414	410-414,429.2	I21-I25,I51.6
All vascular lesions of central nervous system	<not available>	<not available>	430-438	430-438	I60-I69
All respiratory diseases	<not available>	<not available>	460-519	460-519	J00-J98
All diseases of digestive system	<not available>	<not available>	520-579	520-579	K00-K92
All diseases of blood and blood-forming organs	<not available>	<not available>	280-289	280-289 excl. 289.8	D50-D89
All diseases of bones and organs of movement	<not available>	<not available>	710-739	710-739	M00-M99
All diseases of skin and cellular tissue	<not available>	<not available>	680-709	680-709	L00-L98

All external causes of death	<not available>	<not available>	800-999	800-999	V01-Y89
Symptoms, senility, and ill-defined conditions	<not available>	<not available>	780-799	780-799	R00-R99

---

\*CHD=coronary heart disease; CNS=central nervous system



**Supplementary Figure 1. Standardized mortality ratios (SMRs) by years since hereditary retinoblastoma diagnosis for subsequent cancers, overall and by type. Error bars represent 95% confidence intervals (CIs).**

**Supplementary Table 2. Cumulative mortality and person-years at risk for retinoblastoma, subsequent cancer and non-cancer causes**

Patients at Risk (Number of Deaths)	Years since retinoblastoma													
	0-9 years		10-19 years		20-29 years		30-39 years		40-49 years		50-59 years		60-69 years	
Non-hereditary retinoblastoma	924 (103)		801 (9)		721 (11)		606 (11)		448 (11)		250 (6)		98 (14)	
Hereditary retinoblastoma	1129 (192)		919 (95)		762 (52)		626 (64)		428 (63)		212 (36)		60 (12)	
Cause of Death														
Non-hereditary retinoblastoma	CM*	(95% CI)	CM	(95% CI)	CM	(95% CI)	CM	(95% CI)	CM	(95% CI)	CM	(95% CI)	CM	
All-causes of death	11.3	(9.2, 13.3)	12.3	(10.2, 14.5)	13.8	(11.5, 16.0)	15.5	(13.1, 17.9)	18.3	(15.4, 21.2)	21.8	(18.0, 25.6)	35.1	
Retinoblastoma	9.0	(7.1, 10.8)	9.1	(7.2, 10.9)	9.1	(7.2, 10.9)	9.1	(7.2, 10.9)	9.1	(7.2, 10.9)	9.1	(7.2, 10.9)	9.1	
Subsequent cancer	0.1	-(0.1, 0.3)	0.5	(0.0, 0.9)	0.9	(0.2, 1.5)	1.0	(0.3, 1.7)	2.3	(1.0, 3.6)	5.2	(2.5, 8.0)	8.9	
Non-cancer causes	1.2	(0.5, 1.9)	1.8	(0.9, 2.7)	2.8	(1.7, 4.0)	4.3	(2.8, 5.7)	5.6	(3.7, 7.4)	6.1	(4.0, 8.2)	13.4	
Hereditary retinoblastoma														
All-causes of death	17.3	(15.1, 19.5)	26.0	(23.4, 28.6)	31.4	(28.6, 34.2)	39.5	(36.4, 42.6)	50.5	(46.9, 54.1)	63.5	(58.9, 68.2)	75.8	
Retinoblastoma	13.0	(11.0, 15.0)	14.5	(12.4, 16.5)	15.3	(13.2, 17.4)	15.8	(13.6, 18.0)	17.0	(14.7, 19.3)	17.9	(15.3, 20.5)	17.9	
Subsequent cancer	1.9	(1.1, 2.7)	7.9	(6.3, 9.6)	11.9	(9.9, 13.8)	18.4	(15.9, 20.9)	27.4	(24.2, 30.7)	36.7	(32.3, 41.1)	48.3	
Non-cancer causes	1.6	(0.9, 2.3)	2.4	(1.5, 3.2)	2.8	(1.8, 3.7)	3.5	(2.4, 4.6)	4.2	(2.9, 5.6)	6.7	(4.5, 9.0)	7.4	

\* CM=cumulative mortality; CI=confidence interval.