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Table SI. Diagnosis codes used in the study

Cancer site	ICD-9	ICD-10
All malignant, excl. skin	140–208 (excl. 172, 173, 195, 199)	C00-C97 (excl. C43, C44, C76-C80)
Lip	140	C00
Tongue	141	C01-C02
Mouth	143, 144, 145	C03-C06
Salivary glands	142	C07-C08
Pharynx	146, 147, 148	C09-C13
Other oral cavity, pharynx	149	C14
Esophagus	150	C15
Stomach	151	C16
Small intestine	152	C17
Colon	153	C18
Rectum	154	C19-C21
Liver	155	C22
Gallbladder, bile ducts	156	C23-C24
Pancreas	157	C25
Other gastrointestinal	159	C26
Nose, nasal cavity	160	C30-C31
Larynx	161	C32
Lung	162	C33-C34
Heart, mediastinum, pleura	163–164	C37-C38
Other respiratory	165	C39
Bone	170	C40-C41
Kaposi sarcoma	-	C46
Peritoneum	158	C48
Connective tissue	171	C49
Breast	174	C50
Vulva, vagina	1840A–1844A	C51-C52
Cervix uteri	180	C53
Corpus uteri	182	C54
Other uterus	179	C55
Ovary	1830A	C56
Other male genital	187	C60, C63

Prostate	185	C61
Testis	186	C62
Kidney	1890, 1891	C64-C65
Bladder	188	C67
Other urinary track	1892–1899	C66, C68
Eye	190	C69
Ocular melanoma	1900 – 1909B	C69.02, C69.32, C69.42, C69.45, C69.82, C69.92
Brain	191	C71
Nervous system	192	C70, C72
Thyroid	193	C73
Other endocrine	194	C74-C75
Metastasis of other cancers	1990X	C77-C79
Hodgkin's lymphoma	201	C81
Non-Hodgkin's lymphoma	200, 202 (excl. 2021A)	C82-C85 (excl. C84.0)
Mycosis fungoides	2021A	C84.0
Multiple myeloma	2030A, 2031A	C90
Leukemia	204–208	C91-C95
Albinism	-	E70.3
Xeroderma pigmentosum	7573D	Q82.1
Gorlin syndrome	-	Q82.86

Table SII. Odds ratios and 95% confidence intervals for the overall cancer risk at selected sites. *BCC*, basal cell carcinoma; *CI*, confidence interval; *OR*, odds ratio

Cancer site	BCC (N=96,304)	Controls (N=394,503)	OR (95% CI) crude	OR (95% CI) adjusted*
	N (%)	N (%)		
All malignant, excl. skin	31,667 (32.9)	79,420 (20.1)	1.94 (1.91 - 1.97)	1.38 (1.36 - 1.40)
Mouth, oral cavity and pharynx				
Lip	418 (0.4)	231 (0.1)	7.44 (6.34 - 8.74)	5.29 (4.50 - 6.21)
Tongue	202 (0.2)	419 (0.1)	1.98 (1.67 - 2.34)	1.54 (1.30 - 1.82)
Mouth	253 (0.3)	478 (0.1)	2.17 (1.86 - 2.53)	1.68 (1.44 - 1.97)
Salivary glands	194 (0.2)	257 (0.1)	3.10 (2.57 - 3.73)	2.35 (1.95 - 2.84)
Pharynx	211 (0.2)	423 (0.1)	2.05 (1.73 - 2.41)	1.57 (1.33 - 1.86)
Other oral cavity, pharynx	31 (0.0)	53 (0.0)	2.40 (1.54 - 3.73)	1.75 (1.12 - 2.73)
Digestive organs				
Esophagus	222 (0.2)	745 (0.2)	1.22 (1.05 - 1.42)	0.88 (0.76 - 1.02)
Stomach	591 (0.6)	2,393 (0.6)	1.01 (0.92 - 1.11)	0.72 (0.66 - 0.79)
Small intestine	170 (0.2)	378 (0.1)	1.84 (1.54 - 2.21)	1.41 (1.17 - 1.69)
Colon	2,195 (2.3)	5,062 (1.3)	1.79 (1.71 - 1.89)	1.31 (1.24 - 1.37)
Rectum	1,285 (1.3)	3,314 (0.8)	1.60 (1.50 - 1.70)	1.16 (1.09 - 1.24)
Liver	420 (0.4)	1,510 (0.4)	1.14 (1.02 - 1.27)	0.81 (0.73 - 0.91)
Gallbladder, bile ducts	206 (0.2)	804 (0.2)	1.05 (0.90 - 1.22)	0.76 (0.65 - 0.89)
Pancreas	653 (0.7)	2,731 (0.7)	0.98 (0.90 - 1.07)	0.71 (0.65 - 0.77)
Other gastrointestinal	114 (0.1)	411 (0.1)	1.14 (0.92 - 1.40)	0.82 (0.67 - 1.01)
Respiratory and mediastinum				
Nose, sinuses	139 (0.1)	177 (0.0)	3.22 (2.58 - 4.02)	2.34 (1.87 - 2.92)
Larynx	166 (0.2)	468 (0.1)	1.45 (1.22 - 1.74)	1.03 (0.86 - 1.23)
Lung	1,636 (1.7)	6,757 (1.7)	0.99 (0.94 - 1.05)	0.69 (0.65 - 0.73)
Heart, mediastinum, pleura	102 (0.1)	263 (0.1)	1.59 (1.26 - 2.00)	1.17 (0.93 - 1.48)
Other respiratory	32 (0.0)	115 (0.0)	1.14 (0.77 - 1.69)	0.81 (0.54 - 1.19)
Bone and connective tissue				
Bone	212 (0.2)	339 (0.1)	2.57 (2.16 - 3.05)	2.09 (1.75 - 2.49)
Kaposi sarcoma	30 (0.0)	49 (0.0)	2.51 (1.59 - 3.95)	1.79 (1.13 - 2.82)
Peritoneum	114 (0.1)	335 (0.1)	1.39 (1.13 - 1.72)	1.05 (0.85 - 1.31)
Connective tissue	425 (0.4)	518 (0.1)	3.37 (2.97 - 3.83)	2.77 (2.43 - 3.16)
Breast [#]	4,547 (8.8)	10,702 (5.1)	1.80 (1.73 - 1.86)	1.47 (1.41 - 1.52)

Female genital organs[#]				
Vulva, vagina	188 (0.4)	419 (0.2)	1.83 (1.54 - 2.17)	1.40 (1.18 - 1.67)
Cervix uteri	150 (0.3)	574 (0.3)	1.06 (0.89 - 1.27)	0.87 (0.72 - 1.04)
Corpus uteri	995 (1.9)	2,493 (1.2)	1.64 (1.52 - 1.76)	1.28 (1.19 - 1.38)
Uterus, other	25 (0.0)	88 (0.0)	1.16 (0.74 - 1.80)	0.88 (0.56 - 1.37)
Ovary	374 (0.7)	1,617 (0.8)	0.94 (0.84 - 1.05)	0.73 (0.65 - 0.82)
Male genital organs[§]				
Other male genital	6,123 (13.7)	11,635 (6.3)	2.36 (2.28 - 2.44)	1.62 (1.57 - 1.68)
Prostate	6,027 (13.5)	11,306 (6.1)	2.39 (2.31 - 2.47)	1.64 (1.58 - 1.69)
Testis	73 (0.2)	263 (0.1)	1.15 (0.88 - 1.49)	1.34 (1.02 - 1.76)
Urinary organs				
Kidney	1,047 (1.1)	2,567 (0.7)	1.68 (1.56 - 1.80)	1.24 (1.15 - 1.33)
Bladder	1,485 (1.5)	3,275 (0.8)	1.87 (1.76 - 1.99)	1.32 (1.24 - 1.41)
Urinary track, other	114 (0.1)	311 (0.1)	1.50 (1.21 - 1.86)	1.07 (0.86 - 1.33)
Eye	254 (0.3)	362 (0.1)	2.88 (2.45 - 3.38)	2.21 (1.88 - 2.59)
Eye, excl. ocular melanoma	179 (0.190)	184 (0.050)	3.99 (3.25 - 4.90)	3.08 (2.50 - 3.79)
Brain and nervous system				
Brain	109 (0.1)	437 (0.1)	1.02 (0.83 - 1.26)	0.78 (0.63 - 0.96)
Nervous system	288 (0.3)	903 (0.2)	1.31 (1.15 - 1.49)	1.06 (0.93 - 1.21)
Endocrine				
Thyroid	413 (0.4)	1,044 (0.3)	1.62 (1.45 - 1.82)	1.47 (1.31 - 1.65)
Other endocrine	64 (0.1)	162 (0.0)	1.62 (1.21 - 2.16)	1.31 (0.97 - 1.75)
Metastasis of other cancers	2,345 (2.4)	4,922 (1.3)	1.98 (1.88 - 2.08)	1.51 (1.44 - 1.59)
Lymphoma and leukemia				
Hodgkin's lymphoma	282 (0.3)	506 (0.1)	2.29 (1.98 - 2.65)	2.16 (1.86 - 2.52)
Non-Hodgkin's lymphoma	1,730 (1.8)	3,002 (0.8)	2.39 (2.25 - 2.53)	1.81 (1.70 - 1.92)
Mycosis fungoides	86 (0.1)	89 (0.0)	3.96 (2.94 - 5.33)	3.13 (2.31 - 4.23)
Multiple myeloma	610 (0.6)	1,360 (0.3)	1.84 (1.67 - 2.03)	1.35 (1.23 - 1.49)
Leukemia	1,175 (1.2)	2,120 (0.5)	2.29 (2.13 - 2.46)	1.73 (1.61 - 1.86)

*Adjusted for age and sex [#]Only female subjects included [§]Only male subjects included.

Table SIII. Odds ratios and confidence intervals for overall cancer risk and for cancers at selected sites by gender. *BCC*, basal cell carcinoma; *CI*, confidence interval; *OR*, odds ratio

Cancer site	Females				Males			
	BCC (N=51,688)	Controls (N=210,181)	OR (95% CI) crude	OR (95% CI) adjusted [□]	BCC (N=44,616)	Controls (N=184,322)	OR (95% CI) crude	OR (95% CI) adjusted [□]
	N (%)	N (%)			N (%)	N (%)		
All malignant[#]	15,327 (29.7)	42,463 (20.2)	1.66 (1.63 - 1.70)	1.27 (1.24 - 1.30)	16,340 (36.6)	36,957 (20.1)	2.30 (2.25 - 2.36)	1.49 (1.45 - 1.52)
Mouth, oral cavity and pharynx								
Lip	131 (0.3)	68 (0.0)	7.85 (5.86 - 10.5)	5.99 (4.47 - 8.03)	287 (0.6)	163 (0.1)	7.31 (6.03 - 8.87)	4.99 (4.11 - 6.05)
Tongue	87 (0.2)	182 (0.1)	1.95 (1.51 - 2.51)	1.53 (1.18 - 1.98)	115 (0.3)	237 (0.1)	2.01 (1.61 - 2.51)	1.56 (1.24 - 1.96)
Mouth	129 (0.3)	242 (0.1)	2.17 (1.75 - 2.69)	1.73 (1.39 - 2.14)	124 (0.3)	236 (0.1)	2.17 (1.75 - 2.70)	1.65 (1.32 - 2.05)
Salivary glands	83 (0.2)	127 (0.1)	2.66 (2.02 - 3.51)	2.16 (1.63 - 2.86)	111 (0.3)	130 (0.1)	3.53 (2.74 - 4.55)	2.51 (1.94 - 3.24)
Pharynx	67 (0.1)	127 (0.1)	2.15 (1.60 - 2.89)	1.69 (1.26 - 2.28)	144 (0.3)	296 (0.2)	2.01 (1.65 - 2.46)	1.53 (1.25 - 1.87)
Other oral cavity, pharynx	10 (0.0)	17 (0.0)	2.39 (1.10 - 5.23)	1.81 (0.83 - 3.95)	21 (0.1)	36 (0.0)	2.41 (1.41 - 4.13)	1.75 (1.02 - 3.02)
Digestive organs								
Esophagus	97 (0.2)	316 (0.2)	1.25 (0.99 - 1.57)	0.94 (0.75 - 1.19)	125 (0.3)	429 (0.2)	1.20 (0.99 - 1.47)	0.85 (0.69 - 1.04)
Stomach	267 (0.5)	1118 (0.5)	0.97 (0.85 - 1.11)	0.73 (0.64 - 0.84)	324 (0.7)	1275 (0.7)	1.05 (0.93 - 1.19)	0.71 (0.62 - 0.80)
Small intestine	74 (0.1)	176 (0.1)	1.71 (1.30 - 2.24)	1.34 (1.02 - 1.76)	96 (0.2)	202 (0.1)	1.97 (1.54 - 2.51)	1.47 (1.15 - 1.88)
Colon	1,130 (2.2)	2,834 (1.4)	1.64 (1.53 - 1.75)	1.24 (1.16 - 1.33)	1,065 (2.4)	2,228 (1.2)	2.00 (1.86 - 2.15)	1.38 (1.28 - 1.49)
Rectum	541 (1.1)	1,634 (0.8)	1.35 (1.22 - 1.49)	1.03 (0.93 - 1.14)	744 (1.7)	1,680 (0.9)	1.84 (1.69 - 2.01)	1.28 (1.18 - 1.40)
Liver	159 (0.3)	665 (0.3)	0.97 (0.82 - 1.16)	0.73 (0.62 - 0.87)	261 (0.6)	845 (0.5)	1.28 (1.11 - 1.47)	0.87 (0.76 - 1.00)
Gallbladder, bile ducts	114 (0.2)	541 (0.3)	0.86 (0.70 - 1.05)	0.65 (0.53 - 0.79)	92 (0.2)	263 (0.1)	1.45 (1.14 - 1.83)	0.99 (0.78 - 1.25)
Pancreas	352 (0.7)	1,573 (0.8)	0.91 (0.81 - 1.02)	0.69 (0.61 - 0.77)	301 (0.7)	1,158 (0.6)	1.07 (0.95 - 1.22)	0.74 (0.65 - 0.84)

Other gastrointestinal	70 (0.1)	248 (0.1)	1.15 (0.88 - 1.50)	0.87 (0.67 - 1.13)	44 (0.1)	163 (0.1)	1.12 (0.80 - 1.56)	0.76 (0.55 - 1.06)
Respiratory and mediastinum								
Nose, sinuses	64 (0.1)	79 (0.0)	3.30 (2.37 - 4.59)	2.52 (1.81 - 3.50)	75 (0.2)	98 (0.1)	3.17 (2.34 - 4.28)	2.20 (1.62 - 2.97)
Larynx	29 (0.1)	83 (0.0)	1.42 (0.93 - 2.17)	1.11 (0.73 - 1.70)	137 (0.3)	385 (0.2)	1.47 (1.21 - 1.79)	1.02 (0.83 - 1.23)
Lung	488 (0.9)	1,916 (0.9)	1.04 (0.94 - 1.15)	0.79 (0.72 - 0.87)	1,148 (2.6)	4,841 (2.6)	0.98 (0.92 - 1.05)	0.65 (0.61 - 0.69)
Heart, pleura, mediastinum	29 (0.1)	101 (0.1)	1.17 (0.77 - 1.76)	0.91 (0.60 - 1.37)	73 (0.2)	162 (0.1)	1.86 (1.41 - 2.46)	1.33 (1.01 - 1.76)
Other respiratory	13 (0.0)	36 (0.0)	1.47 (0.78 - 2.77)	1.14 (0.60 - 2.15)	19 (0.0)	79 (0.0)	0.99 (0.60 - 1.64)	0.67 (0.41 - 1.10)
Bone and connective tissue								
Bone	106 (0.2)	162 (0.1)	2.66 (2.09 - 3.40)	2.26 (1.77 - 2.91)	106 (0.2)	177 (0.1)	2.48 (1.95 - 3.15)	1.93 (1.51 - 2.46)
Kaposi sarcoma	9 (0.0)	14 (0.0)	2.61 (1.13 - 6.04)	1.98 (0.86 - 4.57)	21 (0.1)	35 (0.0)	2.48 (1.44 - 4.26)	1.73 (1.01 - 2.99)
Peritoneum	79 (0.2)	261 (0.1)	1.23 (0.96 - 1.58)	0.96 (0.75 - 1.23)	35 (0.1)	74 (0.0)	1.95 (1.31 - 2.92)	1.35 (0.90 - 2.03)
Connective tissue	193 (0.4)	275 (0.1)	2.86 (2.38 - 3.44)	2.45 (2.03 - 2.96)	232 (0.5)	243 (0.1)	3.96 (3.31 - 4.74)	3.11 (2.58 - 3.74)
Breast	4,547 (8.8)	10,702 (5.1)	1.80 (1.73 - 1.86)	1.47 (1.41 - 1.52)	69 (0.2)	104 (0.1)	2.74 (2.02 - 3.72)	2.06 (1.52 - 2.81)
Female genital organs								
Vulva, vagina	188 (0.4)	419 (0.2)	1.83 (1.54 - 2.17)	1.40 (1.18 - 1.67)				
Cervix uteri	150 (0.3)	574 (0.3)	1.06 (0.89 - 1.27)	0.87 (0.72 - 1.04)				
Corpus uteri	995 (1.9)	2,493 (1.2)	1.64 (1.52 - 1.76)	1.28 (1.19 - 1.38)				
Other uterus	25 (0.1)	88 (0.0)	1.16 (0.74 - 1.80)	0.88 (0.56 - 1.37)				
Ovary	374 (0.7)	1,617 (0.8)	0.94 (0.84 - 1.05)	0.73 (0.65 - 0.82)				
Male genital organs								
Other male genital					6,123 (13.7)	11,635 (6.3)	2.36 (2.28 - 2.44)	1.62 (1.57 - 1.68)
Prostate					6,027 (13.5)	11,306 (6.1)	2.39 (2.31 - 2.47)	1.64 (1.58 - 1.69)
Testis					73 (0.2)	263 (0.1)	1.15 (0.88 - 1.49)	1.34 (1.02 - 1.76)

Urinary organs								
Kidney	439 (0.9)	1,185 (0.6)	1.51 (1.35 - 1.69)	1.16 (1.04 - 1.30)	608 (1.4)	1,382 (0.8)	1.83 (1.66 - 2.01)	1.30 (1.18 - 1.43)
Bladder	324 (0.6)	833 (0.4)	1.59 (1.39 - 1.80)	1.21 (1.06 - 1.37)	1,161 (2.6)	2,442 (1.3)	1.99 (1.85 - 2.14)	1.36 (1.26 - 1.46)
Other urinary track	40 (0.1)	130 (0.1)	1.25 (0.88 - 1.78)	0.95 (0.66 - 1.35)	74 (0.2)	181 (0.1)	1.69 (1.29 - 2.22)	1.15 (0.88 - 1.51)
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Eye	135 (0.3)	205 (0.1)	2.68 (2.16 - 3.33)	2.13 (1.71 - 2.65)	119 (0.3)	157 (0.1)	3.14 (2.47 - 3.98)	2.29 (1.80 - 2.92)
Eye, excl. ocular melanoma	96 (0.190)	97 (0.050)	4.03 (3.04 - 5.35)	3.26 (2.45 - 4.34)	83 (0.190)	87 (0.050)	3.95 (2.92 - 5.34)	2.86 (2.11 - 3.88)
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Brain and nervous system								
Brain	53 (0.1)	223 (0.1)	0.97 (0.72 - 1.30)	0.77 (0.57 - 1.04)	56 (0.1)	214 (0.1)	1.08 (0.81 - 1.45)	0.79 (0.59 - 1.06)
Nervous system	152 (0.3)	452 (0.2)	1.37 (1.14 - 1.65)	1.15 (0.96 - 1.39)	136 (0.3)	451 (0.2)	1.25 (1.03 - 1.51)	0.97 (0.80 - 1.18)
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Endocrine								
Thyroid	299 (0.6)	784 (0.4)	1.55 (1.36 - 1.78)	1.45 (1.27 - 1.66)	114 (0.3)	260 (0.1)	1.81 (1.45 - 2.26)	1.51 (1.20 - 1.89)
Other endocrine	37 (0.1)	97 (0.1)	1.55 (1.06 - 2.27)	1.29 (0.88 - 1.90)	27 (0.1)	65 (0.0)	1.72 (1.10 - 2.69)	1.32 (0.83 - 2.08)
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Metastasis of other cancers	1,072 (2.1)	2,490 (1.2)	1.77 (1.64 - 1.90)	1.40 (1.31 - 1.51)	1,273 (2.9)	2,432 (1.3)	2.20 (2.05 - 2.35)	1.61 (1.50 - 1.72)
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Lymphoma and leukemia								
Hodgkin's lymphoma	128 (0.3)	222 (0.1)	2.35 (1.89 - 2.92)	2.29 (1.82 - 2.87)	154 (0.4)	284 (0.2)	2.25 (1.84 - 2.73)	2.06 (1.67 - 2.52)
Non-Hodgkin's lymphoma	776 (1.5)	1,599 (0.8)	1.99 (1.82 - 2.17)	1.55 (1.42 - 1.69)	954 (2.1)	1,403 (0.8)	2.85 (2.62 - 3.09)	2.11 (1.94 - 2.29)
Mycosis fungoides	26 (0.1)	37 (0.0)	2.86 (1.73 - 4.72)	2.44 (1.46 - 4.06)	60 (0.1)	52 (0.0)	4.77 (3.29 - 6.92)	3.56 (2.44 - 5.20)
Multiple myeloma	273 (0.5)	705 (0.3)	1.58 (1.37 - 1.81)	1.21 (1.05 - 1.39)	337 (0.8)	655 (0.4)	2.13 (1.87 - 2.44)	1.50 (1.31 - 1.71)
Leukemia	457 (0.9)	1,005 (0.5)	1.86 (1.66 - 2.07)	1.47 (1.31 - 1.64)	718 (1.6)	1,115 (0.6)	2.69 (2.45 - 2.95)	1.96 (1.78 - 2.16)

[‡]Adjusted for age [#]Skin cancers excluded