

Additional material

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TABLE E 1. Benign tumors that are reported to Cancer registry.

Thymus	Thymoma
Endocrine glands	All diagnoses except thyroid adenoma and adenoma of the adrenal cortex with no endocrine activity
Placenta	Complete or partial mola hydatidosa and trophoblast tumors originating in placenta
Nasal cavity	Schneider tumor
Intracranial or intraspinal	All diagnoses
Testicles	Teratomas, Leydig and Sertoli cell tumors, Sertoli–Leydig cell tumors
Urinary bladder and urinary system	Urothelial papilloma except inverted papilloma and papilloma without atypia
Ovary	Borderline tumors, theca cell tumors, granuloma–theca cell tumors, luteoma, Leydig and Sertoli cell tumors, Sertoli–Leydig cell tumors
Orbit	Optic nerve meningeoma
Nasopharynx	Juvenile angiofibroma

TABLE E 2. Cancer types according to ICD–codes

Cancer types
Hemato.lymph="^C8[1–6] ^C88 ^C9[0–6] ^D45 ^D46 ^D47[0–1] ^D47[3–9]",
Colorectal.cancer="^C18 ^C19 ^C20 ^C21",
Lung.cancer="^C33 ^C34",
Skin.nonmelanoma="^C44 ^C460",
Prostate.cancer="^C61",
Pancreatic.cancer="^C25 ^157",
Bladder.cancer="^C6[5–8] ^D09[0–1] ^D30[1–9] ^D41[1–9]",
Liver.cancer="^C22",
Gallbladder.cancer="^C2[3–4]",
Stomach="^C16",
Kidney.cancer="^C64",
Skin.melanoma="^C43",
Breast.cancer="^C50",
Small.intestine="^C17",
Brain.nervs="^C7[0–2] ^C75[1–3] ^D3[2–3] ^D35[2–4] ^D4[2–3] ^D44[3–5]",
Oesophagus="^C15",
Uterus.cancer="^C54",
Ovary.cancer="^C56 ^57[0–4]",
Cervix.cancer="^C53",
Lip.cancer="^C00[0–2] ^C00[5–9]",
Oropharynx.cancer="^C01 ^C05[1–9] ^C09 ^C100 ^C10[2–9]",
Oral.cavity="^C00[3–4] ^C0[2–4] ^C050 ^C06",
Pharynx="^C0[7–8]",
Larynx="^C32 ^C101",
Hypopharynx="^C1[2–3]",
Soft.tissue="^C49 ^C461",
Thyroid.cancer="^C73",
Testis.cancer="^C62",
Uterus.unspec="^C55 ^C58",
Other.gynorg.w="^C5[1–2] ^C57[7–9]",
Other.genital.org.m="^C60 ^C63",
Pleura="^C384 ^C450 ^C45.9",
Bone="^C4[0–1]",
Nasal="^C3[0–1]",
Other.spec="^C37 ^C38[0–3] ^C388 ^C45[1–7] ^C46[2–9] ^C4[7–8] ^C74 ^C750 ^C75[4–9]",
Unknown.unspec="^C26 ^C39 ^C7[6–9] ^C80 ^C97"

Table E 3. Standardized incidence ratio of new cancer in men and women according to

severity of acute disease. The cohort was divided in three categories of equal size based on admission SAPS III scores. SAPS III values were missing in 21 %.

Men	SAPS available, N data missing	8292 (78.5) 2264 (21.4)		
	Median (IQR)	62 (54–71)		
	Mean (SD)	62.77 (12.57)		
	SAPS	N new cancer	SIR	95 % CI
	<57	192	1.49	1.28–1.70
	57-<67	198	1.13	0.98–1.29
	≥67	250	1.25	1.10–1.41
Women	SAPS available, N data missing	6323 (79.1) 1671 (20.9)		
	Median (IQR)	60 (52–69)		
	Mean (SD)	61.01 (12.62)		
	SAPS	N new cancer	SIR	95 % CI
	<55	115	2.03	1.69–2.43
	55-<66	168	1.71	1.47–1.99
	≥66	170	1.62	1.39–1.88

SAPS III= Simplified Acute Physiology Score III, IQR= Inter-Quartile Range, SD= Standard deviation, 95 % CI= 95 % confidence interval

TABLE E 4. Site-specific a) standardized incidence ratios (SIR) and b) crude and adjusted incidence rates (IR) of cancer per 100 000 person years for men. SIR and IR are presented with lower (lCI95) and upper (uCI95) limits of 95% confidence intervals. Cancers with >15 cases are shown.

a)

Cancer, site	N observed	N expected	SIR	lCI95	uCI95
Skin nonmelanoma	204	77.18	2.64	2.30	3.03
Prostate	176	257.64	0.68	0.59	0.79
Colorectal	115	87.50	1.31	1.09	1.58
Malignant hematopoietic	95	73.09	1.30	1.06	1.59
Lung	81	53.23	1.52	1.22	1.89
Skin melanoma	69	39.85	1.73	1.37	2.19
Urinary bladder	54	59.70	0.90	0.69	1.18
Liver	32	11.75	2.72	1.93	3.85
Stomach	28	13.30	2.10	1.45	3.05
Non-Hodgkin lymphoma	28	23.02	1.22	0.84	1.76
Pancreas	24	16.97	1.41	0.95	2.11
Kidney	23	17.21	1.34	0.89	2.01
Brain CNS including endocrine	23	11.37	2.02	1.34	3.05
Lip oral cavity pharynx	22	14.90	1.48	0.97	2.24
Other illdefined	20	10.60	1.89	1.22	2.93
Oesophagus	19	9.19	2.07	1.32	3.24
Multiple myelomas	18	10.80	1.67	1.05	2.65
Gallbladder	11	4.93	2.23	1.23	4.03
Penis other	10	3.04	3.28	1.77	6.10
Chronic lymphatic leukemia	8	9.48	0.84	0.42	1.69
Small intestine	6	3.67	1.63	0.73	3.63
Larynx	6	3.63	1.65	0.74	3.68
Other specified	6	2.48	2.42	1.09	5.39
Thyroid	5	2.52	1.98	0.83	4.77
Soft tissue	5	3.72	1.34	0.56	3.23
Acute myeloid leukemia	5	3.50	1.43	0.59	3.43
Chronic myeloid leukemia	4	2.06	1.94	0.73	5.17
Pleura	3	2.68	1.12	0.36	3.47
Nasal cavity middle ear sinuses	2	0.95	2.10	0.53	8.42
Testis	1	1.76	0.57	0.08	4.03
Eye	1	1.50	0.67	0.09	4.75
Acute lymphatic leukemia	1	0.34	2.95	0.42	20.92
Bone	0	0.66	0.00	0.00	

CNS, central nervous system

b)

Cancer, site	Crude rate	Adjusted rate	ICI95	uCI95
Skin nonmelanoma	471.32	330.77	288.35	379.42
Prostate	405.99	256.22	221.03	297.01
Colorectal	263.90	178.99	149.10	214.89
Malignant hematopoietic	217.74	133.84	109.46	163.65
Lung	185.19	118.25	95.11	147.03
Skin melanoma	158.14	102.71	81.12	130.04
Urinary bladder	123.62	81.74	62.60	106.73
Liver	73.13	42.38	29.97	59.93
Non-Hodgkin lymphoma	63.99	43.41	29.97	62.87
Stomach	63.97	47.57	32.84	68.89
Pancreas	54.80	31.04	20.80	46.31
Brain CNS including endocrine	52.59	37.24	24.75	56.04
Kidney	52.56	31.97	21.24	48.10
Lip oral cavity pharynx	50.26	32.82	21.61	49.85
Other illdefined	45.68	37.69	24.32	58.42
Oesophagus	43.40	27.29	17.40	42.78
Multiple myelomas	41.12	26.29	16.57	41.73
Gallbladder	25.11	15.23	8.43	27.50
Penis other	22.84	14.59	7.85	27.12
Chronic lymphatic leukemia	18.27	12.02	6.01	24.04
Small intestine	13.70	9.34	4.20	20.79
Larynx	13.70	9.12	4.10	20.30
Other specified	13.70	9.77	4.39	21.75
Thyroid	11.42	8.21	3.42	19.72
Soft tissue	11.42	8.41	3.50	20.20
Acute myeloid leukemia	11.41	8.66	3.60	20.80
Chronic myeloid leukemia	9.13	6.65	2.50	17.73
Pleura	6.85	4.43	1.43	13.73
Nasal cavity middle ear sinuses	4.57	3.28	0.82	13.12
Testis	2.28	4.30	0.61	30.55
Eye	2.28	1.56	0.22	11.07
Acute lymphatic leukemia	2.28	2.23	0.31	15.81
Bone	0.00	0.00	0.00	0.00

CNS, central nervous system

TABLE E 5. Site-specific a) standardized incidence ratios (SIR) and b) crude and adjusted incidence rates (IR) of cancer per 100 000 person years for women. SIR and IR are presented with lower (lCI95) and upper (uCI95) limits of 95% confidence intervals. Cancers with >15 cases are shown.

a)

Cancer, site	N observed	N expected	SIR	lCI95	uCI95
Skin nonmelanoma	119	34.19	3.48	2.91	4.17
Breast	91	93.67	0.97	0.79	1.19
Colorectal	67	47.88	1.40	1.10	1.78
Lung	63	34.59	1.82	1.42	2.33
Malignant hematopoietic	59	32.19	1.83	1.42	2.37
Skin melanoma	38	21.80	1.74	1.27	2.40
Cervix uteri	32	4.78	6.69	4.73	9.47
Non-Hodgkin lymphoma	28	15.18	1.84	1.27	2.67
Other illdefined	26	10.18	2.56	1.74	3.75
Corpus uteri	23	21.65	1.06	0.71	1.60
Pancreas	19	10.97	1.73	1.11	2.72
Multiple myelomas	18	6.68	2.70	1.70	4.28
Lip oral cavity pharynx	17	6.44	2.64	1.64	4.25
Bladder urinary	16	12.66	1.26	0.77	2.06
Gallbladder	15	4.31	3.48	2.10	5.78
Brain CNS including endocrine	15	8.97	1.67	1.01	2.77
Other specified	14	3.46	4.05	2.40	6.83
Vulva	12	2.98	4.03	2.29	7.09
Oesophagus	11	2.13	5.17	2.86	9.34
Stomach	11	5.00	2.20	1.22	3.97
Kidney	9	6.58	1.37	0.71	2.63
Thyroid	9	3.91	2.30	1.20	4.42
Liver	8	3.67	2.18	1.09	4.36
Chronic lymphatic leukemia	8	5.09	1.57	0.79	3.14
Ovary tubes	6	9.88	0.61	0.27	1.35
Acute myeloid leukemia	5	2.85	1.75	0.73	4.21
Small intestine	4	1.93	2.07	0.78	5.53
Chronic myeloid leukemia	4	1.26	3.18	1.19	8.46
Soft tissue	2	1.66	1.21	0.30	4.82
Vagina	1	0.49	2.04	0.29	14.51
Uterus other	1	2.02	0.49	0.07	3.51
Larynx	1	0.46	2.19	0.31	15.57
Nasal cavity middle ear sinuses	1	0.45	2.22	0.31	15.77
Eye	1	0.84	1.20	0.17	8.49
Acute lymphatic leukemia	1	0.33	3.02	0.43	21.46
Pleura	0	0.31	0.00	0.00	
Bone	0	0.39	0.00	0.00	

CNS, central nervous system

b)

Cancer, site	Crude rate	Adjusted rate	ICI95	uCI95
Skin nonmelanoma	341.39	255.03	213.09	305.22
Breast	260.89	198.60	161.72	243.90
Colorectal	191.24	140.78	110.81	178.87
Lung	179.49	116.22	90.79	148.77
Malignant hematopoietic	168.32	122.33	94.78	157.89
Skin melanoma	108.32	81.18	59.07	111.57
Cervix uteri	91.20	89.73	63.45	126.88
Other illdefined	73.94	62.79	42.75	92.22
Corpus uteri	65.53	47.58	31.62	71.60
Non-Hodgkin lymphoma	63.99	43.53	30.06	63.05
Pancreas	54.05	34.14	21.77	53.52
Lip oral cavity pharynx	48.40	34.81	21.64	56.00
Bladder urinary	45.52	32.00	19.60	52.23
Brain CNS including endocrine	42.71	33.17	20.00	55.02
Gallbladder	42.67	29.34	17.69	48.67
Multiple myelomas	41.12	27.46	17.30	43.59
Other specified	39.86	27.52	16.30	46.47
Vulva	34.15	25.80	14.65	45.43
Stomach	31.29	24.98	13.83	45.10
Oesophagus	31.28	21.89	12.12	39.52
Thyroid	25.61	21.87	11.38	42.04
Kidney	25.60	17.88	9.30	34.36
Liver	22.76	15.18	7.59	30.36
Chronic lymph leukemia	18.27	11.58	5.79	23.16
Ovary tubes	17.07	13.13	5.90	29.22
Acute myeloid leukemia	11.41	8.43	3.51	20.25
Small intestine	11.38	8.29	3.11	22.08
Chronic myeloid leukemia	9.13	6.47	2.43	17.25
Soft tissue	5.69	4.76	1.19	19.05
Vagina	2.84	2.28	0.32	16.18
Uterus other	2.84	1.94	0.27	13.76
Larynx	2.84	2.12	0.30	15.07
Nasal cavity middle ear sinuses	2.84	2.17	0.31	15.37
Eye	2.84	2.11	0.30	15.00
Acute lymph leukemia	2.28	1.78	0.25	12.66
Pleura	0.00	0.00	0.00	0.00
Bone	0.00	0.00	0.00	0.00

CNS, central nervous system

TABLE E 6. Site-specific standardized incidence ratios (SIR) of cancer by length of follow up for men. SIRs are presented with lower (lCI95) and upper (uCI95) limits of 95% confidence intervals. Cancers with >15 cases are shown.

Cancer. site	Follow-up time, years	N observed	N expected	SIR	lCI95	uCI95
Urinary bladder	<1	17	8.14	2.09	1.30	3.36
Urinary bladder	1-2	20	22.51	0.89	0.57	1.38
Urinary bladder	3-4	7	13.89	0.50	0.24	1.06
Urinary bladder	>=5	10	15.16	0.66	0.35	1.23
Brain CNS incl endoc	<1	8	1.63	4.92	2.46	9.84
Brain CNS incl endoc	1-2	5	4.30	1.16	0.48	2.79
Brain CNS incl endoc	3-4	6	2.66	2.25	1.01	5.02
Brain CNS incl endoc	>=5	4	2.78	1.44	0.54	3.84
Colorectal	<1	19	12.28	1.55	0.99	2.43
Colorectal	1-2	36	33.23	1.08	0.78	1.50
Colorectal	3-4	32	20.24	1.58	1.12	2.24
Colorectal	>=5	28	21.75	1.29	0.89	1.86
Kidney	<1	5	2.38	2.10	0.87	5.05
Kidney	1-2	7	6.45	1.09	0.52	2.28
Kidney	3-4	1	4.01	0.25	0.04	1.77
Kidney	>=5	10	4.37	2.29	1.23	4.25
Lip oral cavity pharynx	<1	4	2.06	1.94	0.73	5.18
Lip oral cavity pharynx	1-2	13	5.60	2.32	1.35	4.00
Lip oral cavity pharynx	3-4	3	3.49	0.86	0.28	2.67
Lip oral cavity pharynx	>=5	2	3.76	0.53	0.13	2.13
Liver	<1	9	1.54	5.85	3.04	11.23
Liver	1-2	9	4.35	2.07	1.08	3.98
Liver	3-4	5	2.77	1.81	0.75	4.34
Liver	>=5	9	3.09	2.91	1.51	5.60
Lung	<1	18	7.59	2.37	1.49	3.76
Lung	1-2	37	20.31	1.82	1.32	2.51
Lung	3-4	12	12.35	0.97	0.55	1.71
Lung	>=5	14	12.97	1.08	0.64	1.82
Malignant hematopoietic	<1	23	10.26	2.24	1.49	3.37
Malignant hematopoietic	1-2	30	27.57	1.09	0.76	1.56
Malignant hematopoietic	3-4	19	17.06	1.11	0.71	1.75
Malignant hematopoietic	>=5	23	18.20	1.26	0.84	1.90
Multiple myelomas	<1	5	1.47	3.40	1.41	8.16
Multiple myelomas	1-2	6	4.06	1.48	0.66	3.29
Multiple myelomas	3-4	4	2.52	1.59	0.60	4.24
Multiple myelomas	>=5	3	2.75	1.09	0.35	3.38
Non-Hodgkin lymphoma	<1	6	3.22	1.86	0.84	4.14
Non-Hodgkin lymphoma	1-2	12	8.70	1.38	0.78	2.43
Non-Hodgkin lymphoma	3-4	4	5.35	0.75	0.28	1.99
Non-Hodgkin lymphoma	>=5	6	5.74	1.05	0.47	2.33
Oesophagus	<1	3	1.26	2.39	0.77	7.41
Oesophagus	1-2	7	3.47	2.02	0.96	4.24
Oesophagus	3-4	3	2.15	1.39	0.45	4.32
Oesophagus	>=5	6	2.32	2.59	1.16	5.77
Other illdefined	<1	8	1.68	4.75	2.37	9.49
Other illdefined	1-2	7	4.23	1.66	0.79	3.47
Other illdefined	3-4	3	2.41	1.25	0.40	3.86
Other illdefined	>=5	2	2.28	0.88	0.22	3.51
Pancreas	<1	4	2.27	1.77	0.66	4.70
Pancreas	1-2	11	6.30	1.75	0.97	3.15
Pancreas	3-4	6	3.99	1.50	0.68	3.35

Cancer. site	Follow-up time, years	N observed	N expected	SIR	ICI95	uCI95
Pancreas	>=5	3	4.41	0.68	0.22	2.11
Prostate	<1	38	36.83	1.03	0.75	1.42
Prostate	1-2	54	98.61	0.55	0.42	0.71
Prostate	3-4	43	59.94	0.72	0.53	0.97
Prostate	>=5	41	62.26	0.66	0.48	0.89
Skin melanoma	<1	12	5.27	2.28	1.29	4.01
Skin melanoma	1-2	25	14.82	1.69	1.14	2.50
Skin melanoma	3-4	15	9.36	1.60	0.97	2.66
Skin melanoma	>=5	17	10.41	1.63	1.02	2.63
Skin nonmelanoma	<1	51	10.07	5.07	3.85	6.67
Skin nonmelanoma	1-2	63	28.89	2.18	1.70	2.79
Skin nonmelanoma	3-4	46	18.07	2.55	1.91	3.40
Skin nonmelanoma	>=5	44	20.16	2.18	1.62	2.93
Stomach	<1	6	1.93	3.12	1.40	6.94
Stomach	1-2	8	5.09	1.57	0.79	3.14
Stomach	3-4	10	3.07	3.26	1.75	6.05
Stomach	>=5	4	3.21	1.24	0.47	3.32

CNS, central nervous system

TABLE E 7. Site-specific standardized incidence ratios (SIR) of cancer by length of follow up for women. SIRs are presented with lower (lCI95) and upper (uCI95) limits of 95% confidence intervals. Cancers with >15 cases are shown.

Cancer.site	Follow-up time, years	N observed	N expected	SIR	lCI95	uCI95
Urinary bladder	<1	2	1.17	1.70	0.43	6.82
Urinary bladder	1-2	6	4.47	1.34	0.60	2.99
Urinary bladder	3-4	4	3.16	1.26	0.47	3.37
Urinary bladder	>=5	4	1.45	2.75	1.03	7.34
Breast	<1	14	9.38	1.49	0.88	2.52
Breast	1-2	32	33.66	0.95	0.67	1.34
Breast	3-4	26	23.33	1.11	0.76	1.64
Breast	>=5	19	27.30	0.70	0.44	1.09
Cervix uteri	<1	6	0.46	13.17	5.92	29.31
Cervix uteri	1-2	11	1.66	6.62	3.67	11.95
Cervix uteri	3-4	6	1.19	5.06	2.27	11.26
Cervix uteri	>=5	9	1.48	6.09	3.17	11.71
Colorectal	<1	12	4.63	2.59	1.47	4.56
Colorectal	1-2	24	17.06	1.41	0.94	2.10
Colorectal	3-4	17	11.90	1.43	0.89	2.30
Colorectal	>=5	14	14.28	0.98	0.58	1.65
Corpus uteri	<1	8	2.22	3.60	1.80	7.21
Corpus uteri	1-2	5	7.82	0.64	0.27	1.54
Corpus uteri	3-4	6	5.34	1.12	0.50	2.50
Corpus uteri	>=5	4	6.26	0.64	0.24	1.70
Lip oral cavity pharynx	<1	5	0.60	8.37	3.48	20.11
Lip oral cavity pharynx	1-2	6	2.26	2.66	1.19	5.92
Lip oral cavity pharynx	3-4	4	1.61	2.49	0.93	6.63
Lip oral cavity pharynx	>=5	2	3.85	0.52	0.13	2.08
Lung	<1	14	3.35	4.18	2.48	7.06
Lung	1-2	26	12.35	2.11	1.43	3.09
Lung	3-4	9	8.58	1.05	0.55	2.02
Lung	>=5	14	10.32	1.36	0.80	2.29
Malignant hematopoietic	<1	13	3.09	4.20	2.44	7.24
Malignant hematopoietic	1-2	21	11.43	1.84	1.20	2.82
Malignant hematopoietic	3-4	12	8.01	1.50	0.85	2.64
Malignant hematopoietic	>=5	13	9.66	1.35	0.78	2.32
Multiple myelomas	<1	5	0.68	7.40	3.08	17.77
Multiple myelomas	1-2	6	2.46	2.44	1.10	5.43
Multiple myelomas	3-4	4	1.64	2.44	0.92	6.50
Multiple myelomas	>=5	3	2.54	1.18	0.38	3.66
Multiple myelomas 0	>=5	3	1.90	1.58	0.51	4.89
Non-Hodgkin lymphoma	<1	6	1.55	3.87	1.74	8.62
Non-Hodgkin lymphoma	1-2	12	5.52	2.17	1.23	3.83
Non-Hodgkin lymphoma	3-4	4	3.73	1.07	0.40	2.86
Non-Hodgkin lymphoma	>=5	6	4.38	1.37	0.62	3.05
Other illdefined	<1	7	1.16	6.02	2.87	12.62
Other illdefined	1-2	9	3.81	2.36	1.23	4.54
Other illdefined	3-4	8	2.50	3.20	1.60	6.40
Other illdefined	>=5	2	2.70	0.74	0.19	2.96
Pancreas	<1	2	1.01	1.99	0.50	7.94
Pancreas	1-2	10	3.86	2.59	1.39	4.82
Pancreas	3-4	6	2.73	2.20	0.99	4.89
Pancreas	>=5	1	3.37	0.30	0.04	2.11

Cancer. site	Follow-up time, years	N observed	N expected	SIR	ICI95	uCI95
Skin melanoma	<1	7	1.94	3.61	1.72	7.58
Skin melanoma	1-2	11	7.49	1.47	0.81	2.65
Skin melanoma	3-4	8	5.48	1.46	0.73	2.92
Skin melanoma	>=5	12	6.89	1.74	0.99	3.07
Skin nonmelanoma	<1	27	2.94	9.20	6.31	13.41
Skin nonmelanoma	1-2	44	11.78	3.74	2.78	5.02
Skin nonmelanoma	3-4	26	8.75	2.97	2.02	4.37
Skin nonmelanoma	>=5	22	10.73	2.05	1.35	3.11

CNS, central nervous system

