

UK Biobank

Death and Cancer Outcomes Report

September 2016

<http://www.ukbiobank.ac.uk/>



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1. Introduction

UK Biobank receives death notifications and cancer diagnoses on a regular basis through linkage to national death and cancer registries, as described elsewhere:

<http://biobank.ctsu.ox.ac.uk/crystal/refer.cgi?id=115559>

<http://biobank.ctsu.ox.ac.uk/crystal/refer.cgi?id=115558> .

This report provides a description of the 20 most common primary causes of deaths and types of cancers, currently in the UK Biobank resource, by age group, sex and year.

Please note:

- **This report (and the online Data Showcase) contains all notifications of deaths and cancers. However, the date of complete follow-up (censoring date) for analyses should be taken to be January 2016 for deaths from E&W and November 2015 for deaths from Scotland. For cancers, date of complete follow-up is September 2014 for E&W and November 2014 for Scotland. In your dataset, please do check that your censoring date refers to the date of complete follow-up (rather than the most recent registration).**
- A small number of participants may have delayed death registration owing to coroner's report. These will be included in the database, as and when they are received.

- Only the first occurrence of a malignant cancer for an individual participant is included in this report.
- The contents of this document will be updated periodically, as and when follow-up data is incorporated into the UK Biobank Resource.
- Please note that data is currently incomplete for cancers registered in 2014.

2. Data on deaths

Figure 2.1: Numbers of the 20 most common causes of death (ICD)

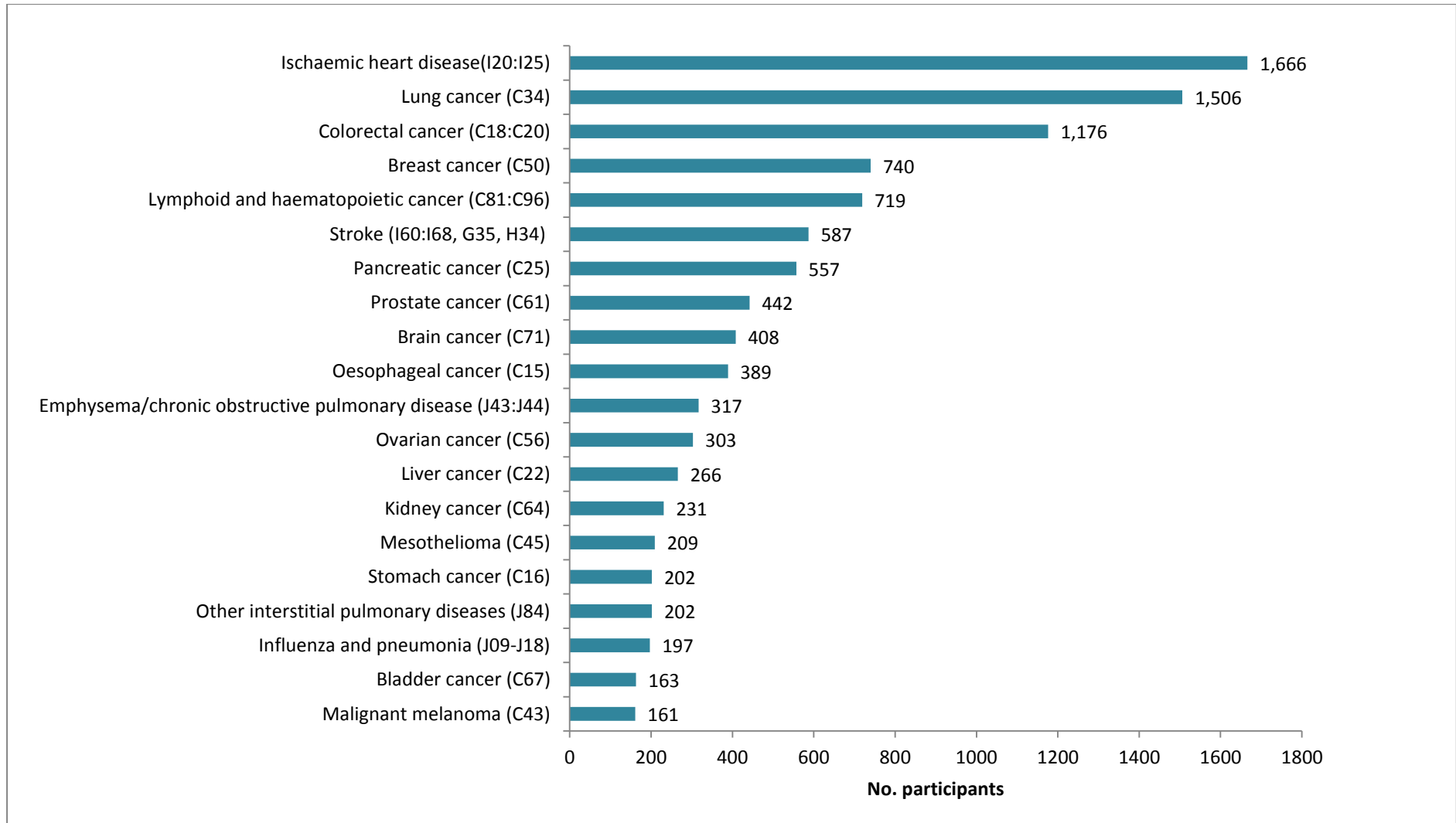


Table 2.1: Numbers of the 20 most common causes of death by age group and sex

	Below 40	40 to <50 years	50 to <60 years	60 to <70 years	70 to <80 years	Male	Female
Ischaemic heart disease	0	37	249	848	532	1391	275
Lung cancer	0	21	186	795	504	846	660
Colorectal cancer	0	23	215	566	372	682	494
Breast cancer	0	54	212	346	128	8	732
Lymphoid and haematopoietic cancer	0	18	78	340	283	444	275
Stroke	0	12	77	282	216	327	260
Pancreatic cancer	0	10	73	303	171	300	257
Prostate cancer	0	1	23	189	229	442	0
Brain cancer	0	22	68	213	105	246	162
Oesophageal cancer	0	6	49	211	123	306	83
Emphysema/chronic obstructive pulmonary disease	1	3	20	158	135	209	108
Ovarian cancer	0	8	50	145	100	0	303
Liver cancer	0	2	46	141	77	144	122
Kidney cancer	0	4	28	129	70	164	67
Mesothelioma	0	1	9	103	96	162	47
Other interstitial pulmonary diseases	0	2	7	88	105	151	51
Stomach cancer	0	5	31	102	64	144	58
Influenza and pneumonia	0	8	25	83	81	130	67
Bladder Cancer	0	3	14	78	68	121	42
Malignant Melanoma	0	10	35	67	49	103	58
Top 20 deaths total	1	250	1495	5187	3508	6320	4121
Other deaths total	1	221	710	1829	1259	2463	1557
Total Deaths	2	471	2,205	7,016	4,767	8,783	5,678

Table 2.2: Numbers of the 20 most common causes of death by year of death

	2006-2010 (recruitment period)	2011	2012	2013	2014	2015	2016
Ischaemic heart disease	387	205	219	254	265	299	36
Lung cancer	280	190	235	255	263	265	18
Colorectal cancer	207	167	178	172	210	216	26
Breast cancer	170	115	96	122	117	108	12
Lymphoid and haematopoietic cancer	116	88	93	97	152	155	18
Stroke	100	59	79	89	133	110	17
Pancreatic cancer	97	59	88	85	99	117	12
Prostate cancer	64	60	53	67	95	94	9
Brain cancer	79	55	60	70	56	80	8
Oesophageal cancer	74	44	59	59	70	74	9
Emphysema/chronic obstructive pulmonary disease	48	30	43	46	60	80	10
Ovarian cancer	56	43	40	55	46	57	6
Liver cancer	39	35	35	40	51	58	8
Kidney cancer	41	29	33	33	50	39	6
Mesothelioma	38	23	28	40	34	41	5
Other Interstitial pulmonary diseases	22	19	29	42	47	37	6
Stomach cancer	32	32	30	37	35	32	4
Influenza and pneumonia	32	12	25	26	35	63	4
Bladder Cancer	26	15	26	29	29	35	3
Malignant melanoma	29	24	23	30	25	27	3
Top 20 deaths total	1937	1304	1472	1648	1872	1987	220
Other deaths	738	472	515	701	726	776	91
Total Deaths	2,675	1,776	1,987	2,349	2,598	2,763	311

3. Data on Incident cancers

Figure 3.1: Numbers of the 20 most common incident cancers (ICD), diagnosed after date of recruitment

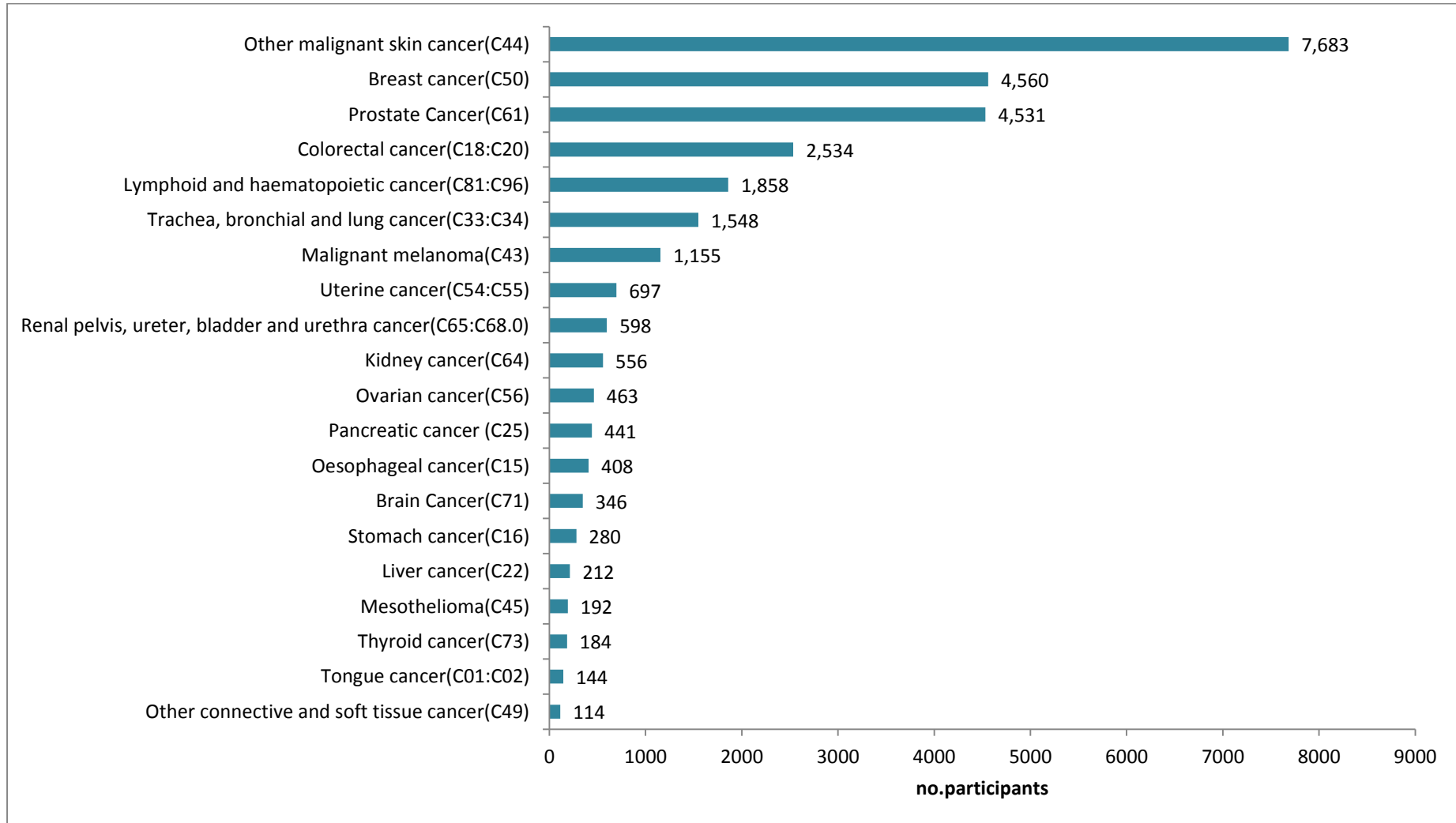


Table 3.1: Numbers of the 20 most common incident cancers by age group and sex

	40 to < 50 years	50 to < 60 years	60 to < 70 years	70 to < 80 years	Missing age	Female	Male
Other malignant skin cancer(C44)	358	1,240	3,797	1,275	1,013	3,519	4,164
Breast cancer(C50)	568	1,246	2,275	444	27	4,532	28
Prostate Cancer(C61)	38	586	2,890	990	27	1	4,530
Colorectal cancer(C18:C20)	92	474	1,424	525	19	1,089	1,445
Lymphoid and haematopoietic cancer(C81:C96)	91	353	1,012	381	21	809	1,049
Trachea, bronchial and lung cancer(C33:C34)	27	234	889	388	10	722	826
Malignant melanoma(C43)	118	277	576	180	4	588	567
Uterine cancer(C54:C55)	27	184	377	101	8	697	0
Renal pelvis, ureter, bladder and urethra cancer(C65:C68.0)	12	64	359	156	7	150	448
Kidney cancer(C64)	17	112	327	95	5	193	363
Ovarian cancer(C56)	35	117	220	86	5	463	0
Pancreatic cancer (C25)	12	64	267	92	6	204	237
Oesophageal cancer(C15)	7	66	240	87	8	101	307
Brain Cancer(C71)	33	70	178	59	6	129	217
Stomach cancer(C16)	10	50	145	73	2	80	200
Liver cancer(C22)	7	45	107	51	2	79	133
Mesothelioma(C45)	1	12	115	63	1	41	151
Thyroid cancer(C73)	23	67	75	19	0	134	50
Tongue cancer(C01:C02)	3	54	65	19	3	49	95
Other connective and soft tissue cancer(C49)	17	26	48	21	2	48	66
Total	1496	5341	15386	5105	1176	13628	14876
Other cancers	462	1,163	2,475	759	54	2,804	2,109
Total Cancers	1,958	6,504	17,861	5,864	1,230	16,432	16,985

Table 3.2: Numbers of the 20 most common incident cancers by year of diagnosis

	2006 to 2010 (recruitment period)	2011	2012	2013	2014	2015
Other malignant skin cancer(C44)	2,656	1,467	1,548	982	911	119
Breast cancer(C50)	1,484	759	738	811	757	11
Prostate Cancer(C61)	1,287	749	823	856	804	12
Colorectal cancer(C18:C20)	794	429	448	437	418	8
Lymphoid and haematopoietic cancer(C81:C96)	527	321	295	385	322	8
Trachea, bronchial and lung cancer(C33:C34)	425	224	298	294	298	9
Malignant melanoma(C43)	378	172	182	208	213	2
Uterine cancer(C54:C55)	216	118	141	112	108	2
Renal pelvis, ureter, bladder and urethra cancer(C65:C68.0)	170	116	109	99	102	2
Kidney cancer(C64)	145	88	108	116	97	2
Ovarian cancer(C56)	160	71	72	82	77	1
Pancreatic cancer (C25)	113	66	83	83	92	4
Oesophageal cancer(C15)	118	63	75	73	75	4
Brain Cancer(C71)	107	67	50	55	65	2
Stomach cancer(C16)	87	43	54	51	44	1
Liver cancer(C22)	58	34	41	36	43	0
Mesothelioma(C45)	57	28	31	34	41	1
Thyroid cancer(C73)	55	32	31	40	26	0
Tongue cancer(C01:C02)	41	19	25	36	21	2
Other connective and soft tissue cancer(C49)	33	15	21	26	19	0
Total of top 20	8,911	4,881	5,173	4,816	4,533	190
Other Cancers	1,559	782	829	877	838	28
Total	10470	5,663	6,002	5,693	5,371	218

4. Data on prevalent cancers

Figure 4.1: Numbers of the 20 most common prevalent cancers (ICD), diagnosed before date of recruitment

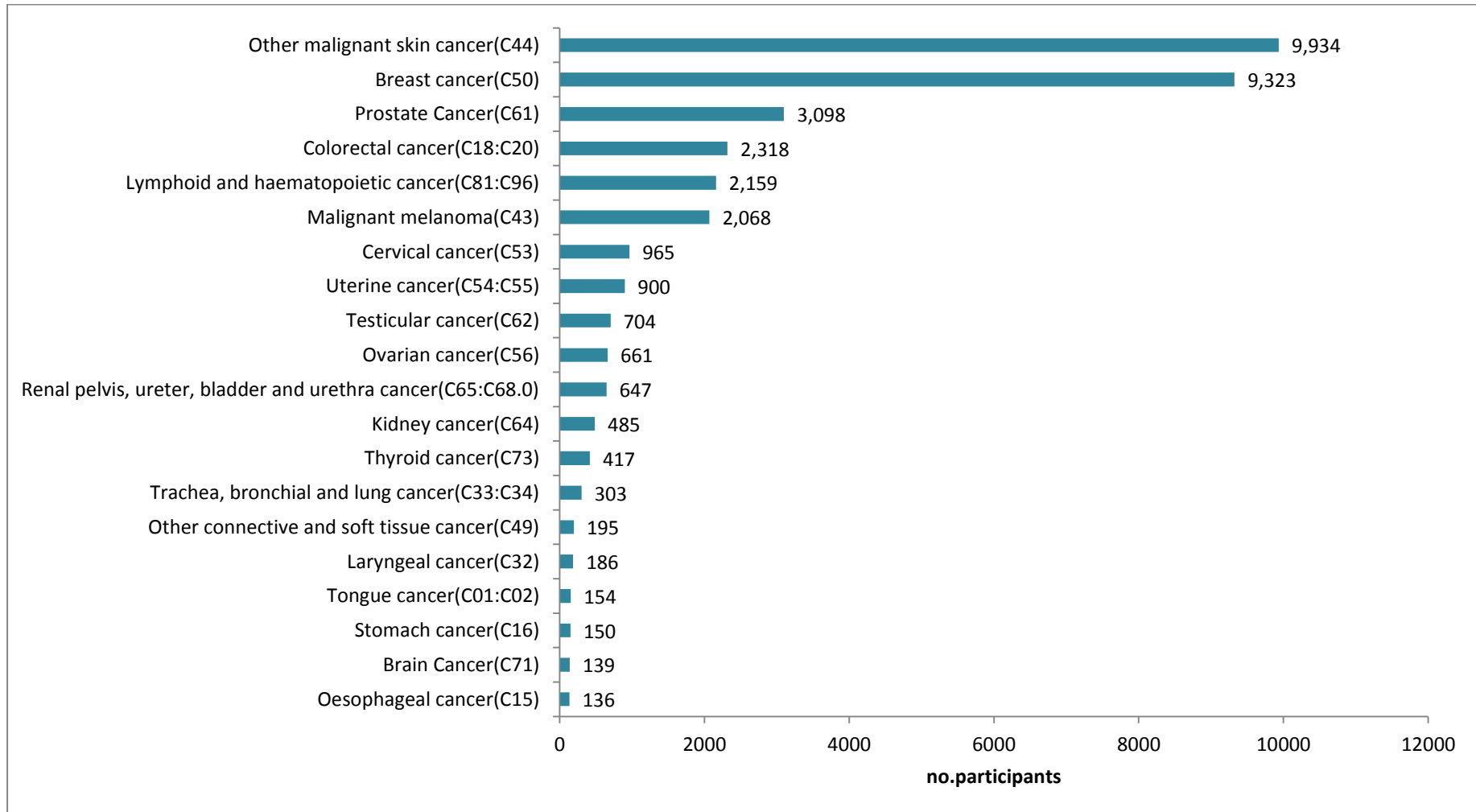


Table 4.1: Numbers of the 20 most common prevalent cancers by age group and sex

Type	<40 years	40 to <50 years	50 to <60 years	60 to <70 years	Missing age	Female	Male
Other malignant skin cancer(C44)	573	2,069	4,075	3,215	2	5,040	4,894
Breast cancer(C50)	657	2,955	4,216	1,493	2	9,282	41
Prostate Cancer(C61)	2	47	1,190	1,858	1	0	3,098
Colorectal cancer(C18:C20)	112	414	1,014	778	0	985	1,333
Lymphoid and haematopoietic cancer(C81:C96)	506	487	691	474	1	947	1,212
Malignant melanoma(C43)	435	619	660	354	0	1,330	738
Cervical cancer(C53)	561	312	81	10	1	965	0
Uterine cancer(C54:C55)	37	145	470	248	0	900	0
Testicular cancer(C62)	374	220	94	16	0	0	704
Ovarian cancer(C56)	123	176	241	121	0	661	0
Renal pelvis, ureter, bladder and urethra cancer(C65:C68.0)	64	132	258	193	0	144	503
Kidney cancer(C64)	29	101	217	138	0	172	313
Thyroid cancer(C73)	131	127	122	37	0	329	88
Trachea, bronchial and lung cancer(C33:C34)	24	49	131	99	0	141	162
Other connective and soft tissue cancer(C49)	54	44	65	32	0	95	100
Laryngeal cancer(C32)	8	38	87	53	0	23	163
Tongue cancer(C01:C02)	14	48	67	25	0	53	101
Stomach cancer(C16)	5	31	57	57	0	53	97
Brain Cancer(C71)	62	48	21	7	1	65	74
Oesophageal cancer(C15)	1	19	55	61	0	31	105
Top 20 total	3,772	8,081	13,812	9,269	8	21,216	13,726
Other cancers	4,253	2,565	2,540	1,353	0	8,538	2,173
Total Cancers	8,025	10,646	16,352	10,622	8	29,754	15,899

Table 4.2: Numbers of the 20 most common prevalent cancers by year of diagnosis

	<1970	1970 to <1980	1980 to <1990	1990 to <2000	2000 to recruitment
Other malignant skin cancer(C44)	1	65	543	2,301	7,024
Breast cancer(C50)	1	68	625	2,950	5,679
Prostate Cancer(C61)	0	1	1	137	2,959
Colorectal cancer(C18:C20)	0	26	91	525	1,676
Lymphoid and haematopoietic cancer(C81:C96)	7	120	239	495	1,298
Malignant melanoma(C43)	2	53	271	598	1,144
Cervical cancer(C53)	2	63	411	329	160
Uterine cancer(C54:C55)	0	6	43	218	633
Testicular cancer(C62)	1	62	202	231	208
Ovarian cancer(C56)	1	20	59	177	404
Renal pelvis, ureter, bladder and urethra cancer(C65:C68.0)	0	15	65	220	347
Kidney cancer(C64)	1	3	20	91	370
Thyroid cancer(C73)	1	33	66	115	202
Trachea, bronchial and lung cancer(C33:C34)	0	4	20	61	218
Other connective and soft tissue cancer(C49)	1	12	31	49	102
Laryngeal cancer(C32)	0	3	14	46	123
Tongue cancer(C01:C02)	0	1	10	32	111
Stomach cancer(C16)	0	0	9	24	117
Brain Cancer(C71)	1	21	18	32	67
Oesophageal cancer(C15)	0	0	0	18	118
Total top 20	19	576	2,738	8,649	22,960
Other cancers	7	467	2,292	3,334	4,611
Total	26	1,043	5,030	11,983	27,571