Report:

Cancer incidence and mortality in the United Kingdom and constituent countries, 2004–06

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Introduction

This report presents the numbers of newly diagnosed cases of cancer (incidence) and deaths from cancer (mortality) in the UK during 2004–06, together with the age-standardised incidence and mortality rates. The report covers all cancers combined (excluding the incidence of non-melanoma skin cancer), and 21 common cancers. Results are given for the UK as a whole and for its four constituent countries. Numbers and age-standardised rates have been calculated as averages over the three-year period 2004–06 (See Background notes).

Key findings

- Around 147,000 males and 146,000 females on average were newly diagnosed with cancer each year in the UK during 2004–06, corresponding to an incidence rate of 414 and 356 per 100,000 respectively
- Around 80,000 males and 74,000 females on average died from cancer each year in the UK, corresponding to a mortality rate of 218 and 155 per 100,000 respectively
- In females, breast cancer had the highest incidence rate in the UK (122 per 100,000), 24 per cent higher than the cancer with the highest incidence in males – prostate cancer (98 per 100,000)
- Wales had the highest overall cancer incidence rate for males, which was 11 per cent higher than the UK average, while Scotland had the highest incident rate for females (8 per cent higher than the UK average)
- Scotland had the highest overall mortality rates for both males and females, at 17 per cent and 16 per cent higher than the UK average, respectively

The major cancers included in the tables and figures presented here accounted for almost 90 per cent of all cases of cancer, and just over 80 per cent of all deaths from cancer, in the UK in 2004–06. The three most common cancers accounted for around 50 per cent of both cases and deaths from cancer.

Incidence

There were on average around 293,000 newly diagnosed cases of cancer each year in the UK in 2004–06, with around 147,000 cases among males and 146,000 among females. Although there were almost identical numbers of cases among males and females, the overall age-standardised incidence rate was higher among males – 414 per 100,000 compared with 356 per 100,000 for females (Table 1).

The three most common cancers were prostate, lung and colorectal for males, and breast, lung and colorectal for females (Figure 1). The incidence of lung cancer was 68 per cent higher in males than in females (62 and 37 per 100,000 respectively), and the incidence of colorectal cancer was 58 per cent higher in males (55 and 35 per 100,000 for males and females, respectively). Overall, breast cancer in females had the highest incidence rate (122 per 100,000), 24 per cent higher than the cancer with the highest incidence in males – prostate cancer (98 per 100,000).

Mortality

There were on average 154,000 deaths from cancer each year in the UK in 2004–06, with around 80,000 deaths among males and 74,000 among females. The equivalent age-standardised mortality rates were 218 and 155 per 100,000 among males and females, respectively (Table 2).

The three most common cancers for both sexes were also the most common causes of death from cancer (Figure 2). However, for females the mortality rate was slightly lower for breast than for lung cancer (28 and 31 per 100,000 respectively). For males, the mortality rate for lung cancer (53 per 100,000) was twice as high as that for prostate cancer (26 per 100,000). Overall, the highest mortality rate was for lung cancer in males. The mortality rate for lung cancer was 75 per cent higher in males than in females. The mortality rate for colorectal cancer was 59 per

Table 1

Registrations of newly diagnosed cases of cancer and directly age-standardised¹ incidence rates per 100,000 population: selected sites by sex and country, 2004–06²

ICD–10	Site description	Sex	United Kingdom		England		Wales		Scotland		N Ireland	
			Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
C00–C97	All malignancies ³	M	146,790	414.0	121,241	407.8	8,737	459.8	13,224	446.1	3,588	411.6
		F	145,731	355.6	119,903	351.2	8,175	377.7	14,017	385.7	3,636	347.1
C00–C14	Lip, mouth and pharynx	M	3,821	11.7	3,011	11.1	228	13.5	476	16.9	107	12.7
		F	2,031	5.2	1,642	5.0	110	5.5	222	6.5	57	5.5
C15	Oesophagus	M	5,005	14.2	4,095	13.8	273	14.3	525	17.8	112	13.1
		F	2,779	5.6	2,251	5.5	157	6.1	318	7.4	53	4.4
C16	Stomach	M	5,133	14.0	4,201	13.6	313	16.2	492	16.1	127	14.3
		F	2,886	5.7	2,291	5.4	190	6.8	317	7.3	88	7.0
C18–C20	Colorectal	M	19,935	55.4	16,355	54.2	1,146	59.0	1,880	62.4	554	63.2
		F	16,398	35.0	13,452	34.3	888	36.0	1,602	39.1	456	39.9
C25	Pancreas	M	3,728	10.4	3,136	10.5	211	11.0	290	9.7	91	10.6
		F	3,945	8.2	3,312	8.2	226	8.6	321	7.9	87	7.1
C32	Larynx	M	1,809	5.3	1,429	5.0	91	5.0	232	8.1	58	6.8
		F	394	1.0	289	0.9	22	1.0	68	2.0	14	1.4
C34	Lung	M	22,637	62.3	18,254	59.9	1,280	65.6	2,537	83.7	566	64.1
		F	16,487	37.0	12,996	35.0	950	40.4	2,170	55.2	370	33.7
C43	Melanoma of skin	M	4,458	13.4	3,716	13.4	223	13.0	415	14.8	105	12.3
		F	5,298	14.7	4,403	14.6	259	13.8	496	15.7	140	14.4
C50	Breast	F	45,524	122.3	38,046	122.8	2,398	122.7	4,012	120.8	1,068	109.7
C53	Cervix	F	2,824	8.3	2,280	8.0	164	10.0	290	9.9	89	9.8
C54	Uterus	F	6,510	16.9	5,424	16.9	394	19.5	520	15.3	172	17.7
C56	Ovary	F	6,627	17.1	5,467	16.9	382	18.7	590	17.1	188	19.0
C61	Prostate	M	35,552	98.3	29,953	98.9	2,228	112.6	2,571	85.0	800	91.5
C62	Testis	M	2,070	6.9	1,697	6.8	104	7.6	206	8.3	62	7.4
C64	Kidney	M	4,041	11.8	3,303	11.5	256	14.0	385	13.3	97	11.4
		F	2,462	6.0	1,998	5.8	154	7.0	242	6.5	68	6.6
C67	Bladder	M	7,318	19.7	6,005	19.2	663	33.9	502	16.4	148	16.6
		F	2,965	5.9	2,395	5.6	256	10.1	252	5.8	62	5.2
C71	Brain	M	2,554	7.9	2,144	7.9	134	8.0	213	7.7	63	7.4
		F	1,805	4.9	1,495	4.9	108	5.9	154	4.9	47	5.0
C81–C96	Lymphomas and leukaemias	M	13,062	38.2	10,851	37.8	765	42.2	1,114	39.1	331	38.2
		F	10,624	25.5	8,751	25.2	629	28.2	957	26.2	287	26.8
C81–C85	Lymphomas	M	6,428	19.1	5,387	19.1	339	19.3	542	19.2	160	18.5
		F	5,550	13.8	4,583	13.7	297	14.0	516	14.6	154	14.6
C81	Hodgkin's disease	M	886	2.9	740	2.9	40	2.6	81	3.2	26	3.0
		F	696	2.2	582	2.2	31	2.0	64	2.3	19	2.1
C82–C85	Non-Hodgkin's lymphoma	M	5,542	16.2	4,647	16.2	299	16.7	461	16.1	134	15.5
		F	4,855	11.7	4,001	11.6	266	12.0	452	12.2	135	12.5
C90	Multiple myeloma	M	2,184	6.1	1,789	6.0	130	6.8	188	6.3	77	8.8
		F	1,842	4.0	1,499	3.9	122	4.9	165	3.9	56	5.0
C91–C95	Leukaemia	M	4,275	12.5	3,536	12.3	283	15.4	364	12.9	91	10.6
		F	3,125	7.4	2,585	7.3	201	8.8	264	7.5	75	7.1

1 Using the European standard population.

2 All numbers and rates in this table are calculated as three-year averages.

3 Figures exclude non-melanoma skin cancer (ICD–10 C44).

Figure 1**Major cancers: age-standardised¹ incidence by sex, 2004–06²**

United Kingdom

1 Directly age-standardised using the European standard population.

2 Rates are calculated as three-year averages.

Figure 2**Major cancers: age-standardised¹ mortality by sex, 2004–06²**

United Kingdom

1 Directly age-standardised using the European standard population.

2 Rates are calculated as three-year averages.

cent higher in males than females (20 and 13 per 100,000 for males and females respectively).

Variations between countries

Lung cancer incidence and mortality rates for both sexes were much higher in Scotland than in the rest of the UK (Figure 3). Rates in Wales, Northern Ireland and England were fairly similar.

For colorectal cancer, the incidence rates were similar in each country but highest in Northern Ireland. However, Scotland and Northern Ireland had much higher mortality rates than England and Wales (Figure 4).

Breast cancer incidence and mortality rates were similar in England, Wales and Scotland, but incidence was lower in Northern Ireland.

Incidence rates for prostate cancer varied, with Wales having the highest and Scotland the lowest, while mortality rates were very similar in each country (Tables 1 and 2).

Scotland had the highest incidence and mortality rates for oesophageal cancer, while Northern Ireland had the lowest (Figure 5).

For stomach cancer, Wales had the highest male incidence rate and England the lowest (Figure 6). For females, incidence was similar in Scotland, Wales and Northern Ireland but lower in England. Stomach

Table 2

Table 2 Deaths from cancer and directly age-standardised¹ mortality rates per 100,000 population: selected sites by sex and country, 2004–06²

ICD–10	Site description	Sex	United Kingdom		England		Wales		Scotland		N Ireland	
			Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
C00–C97	All malignancies	M	80,047	217.6	65,987	213.5	4,426	224.3	7,685	253.8	1,949	219.7
		F	73,620	155.0	60,333	152.2	4,052	160.4	7,403	179.1	1,831	154.2
C00–C14	Lip, mouth and pharynx	M	1,323	3.9	1,042	3.7	75	4.3	171	6.0	35	4.1
		F	690	1.5	559	1.5	35	1.5	76	1.9	21	1.8
C15	Oesophagus	M	4,794	13.3	3,935	13.0	257	13.4	499	16.6	103	11.8
		F	2,566	4.9	2,080	4.8	146	5.2	289	6.5	51	3.8
C16	Stomach	M	3,464	9.2	2,804	8.9	217	10.9	345	11.2	98	11.0
		F	2,149	4.0	1,705	3.8	136	4.5	240	5.4	68	5.2
C18–C20	Colorectal	M	7,488	20.2	6,030	19.4	387	19.5	845	27.8	226	25.6
		F	6,640	12.7	5,412	12.3	327	11.6	705	15.7	196	15.4
C25	Pancreas	M	3,502	9.7	2,944	9.7	190	9.8	284	9.4	84	9.7
		F	3,726	7.6	3,129	7.6	197	7.3	311	7.5	89	7.1
C32	Larynx	M	628	1.8	492	1.7	41	2.2	76	2.6	19	2.1
		F	166	0.4	129	0.3	8	0.3	25	0.6	5	³
C34	Lung	M	19,559	53.3	15,793	51.2	1,087	55.1	2,169	71.2	511	57.4
		F	14,064	30.5	11,148	28.9	762	31.7	1,828	45.1	325	28.6
C43	Melanoma of skin	M	1,013	3.0	842	2.9	56	3.2	90	3.1	26	3.0
		F	804	1.9	674	1.9	47	2.2	66	1.7	16	1.4
C50	Breast	F	12,429	28.3	10,345	28.2	665	28.4	1,111	29.0	308	28.1
C53	Cervix	F	1,035	2.6	836	2.5	63	3.3	107	3.1	29	2.7
C54	Uterus	F	1,158	2.4	957	2.4	76	3.1	107	2.5	18	1.5
C56	Ovary	F	4,356	10.2	3,601	10.1	231	10.0	398	10.3	126	11.8
C61	Prostate	M	10,094	25.7	8,521	25.7	565	26.3	782	25.1	225	24.8
C62	Testis	M	78	0.3	60	0.2	6	³	10	0.4	2	³
C64	Kidney	M	2,126	6.0	1,752	5.9	125	6.7	194	6.5	54	6.3
		F	1,307	2.8	1,052	2.7	70	2.7	150	3.6	35	3.1
C67	Bladder	M	3,154	8.2	2,655	8.2	165	7.9	279	9.0	55	6.1
		F	1,642	2.9	1,360	2.8	88	2.7	163	3.3	32	2.2
C71	Brain	M	2,047	6.2	1,692	6.1	100	5.8	205	7.3	49	5.8
		F	1,399	3.7	1,154	3.7	75	3.9	138	4.1	32	3.3
C81–C96	Lymphomas and leukaemias	M	6,339	17.5	5,345	17.5	327	16.7	517	17.4	150	16.8
		F	5,379	10.9	4,474	10.9	282	10.9	486	11.3	136	10.8
C81–C85	Lymphomas	M	2,516	7.0	2,134	7.1	115	6.0	207	7.0	59	6.6
		F	2,243	4.6	1,862	4.6	111	4.3	210	4.9	61	4.8
C81	Hodgkin's disease	M	177	0.5	149	0.5	6	³	17	0.6	5	³
		F	133	0.3	111	0.3	7	0.4	11	0.3	4	³
C82–C85	Non-Hodgkin's lymphoma	M	2,339	6.5	1,985	6.6	109	5.7	191	6.4	54	6.1
		F	2,110	4.3	1,751	4.3	103	3.9	199	4.6	57	4.4
C90	Multiple myeloma	M	1,334	3.6	1,111	3.6	70	3.4	112	3.7	42	4.7
		F	1,212	2.4	1,005	2.4	68	2.6	108	2.3	30	2.4
C91–C95	Leukaemia	M	2,412	6.6	2,035	6.7	139	7.1	191	6.4	48	5.4
		F	1,882	3.8	1,572	3.8	101	3.9	164	4.0	45	3.5

¹ Using the European standard population.

² All numbers and rates in this table are calculated as three-year averages.

³ Directly age-standardised rates were considered unreliable and were not calculated when there were fewer than 20 deaths over three years in an area.

Figure 3

Lung cancer: age-standardised¹ incidence and mortality by sex and country, 2004–06²

United Kingdom

1 Directly age-standardised using the European standard population.
 2 Rates are calculated as three-year averages.

Figure 4

Colorectal cancer: age-standardised¹ incidence and mortality by sex and country, 2004–06²

United Kingdom

1 Directly age-standardised using the European standard population.
 2 Rates are calculated as three-year averages.

cancer mortality rates for males were similar in Scotland, Wales and Northern Ireland, but lower in England. Female mortality rates were similar in Scotland and Northern Ireland, but a little lower in Wales and England.

Overall cancer incidence and mortality rates for England were similar to those for the UK, since the cases and deaths for England accounted for more than 80 per cent of the UK total.

Wales had the highest overall cancer incidence rate for males in the UK. The incidence of prostate cancer was 15 per cent higher for Wales than for the UK as a whole, though mortality from prostate cancer was only 2 per cent higher. The apparently large difference between Wales and the UK in the incidence of bladder cancer does not necessarily reflect a true difference: certain types of bladder cancer are registered as malignant in Wales,¹ but classified as benign elsewhere. In both males and females, mortality from bladder cancer was slightly lower than for the UK as a whole. Mortality rates for cancers of the larynx, cervix and uterus were much higher in Wales than in the UK.

In Scotland, the overall cancer mortality rates for both sexes were around 16 per cent higher than those for the UK as a whole, and the overall cancer incidence rates were 8 per cent higher.

- The incidence of lung cancer was 34 per cent higher for males and 49 per cent higher for females than in the UK as a whole. The incidence of, and mortality from, other smoking-related cancers – oesophagus, lip, mouth and pharynx, and larynx – were also higher in Scotland than in the other countries of the UK. The incidence of prostate cancer was 14 per cent lower in Scotland than in the UK as a whole.
- The mortality rate for lung cancer in Scotland was 34 per cent higher for males and 48 per cent higher for females than in the UK as a whole. In males it was nearly three times the mortality rate for prostate cancer and in females it was 56 per cent higher than the mortality rate for breast cancer. Male mortality from colorectal cancer was 38 per cent higher in Scotland than in the UK and female mortality from cancer of the kidney and stomach was 29 and 35 per cent higher, respectively.

Figure 5**Oesophageal cancer: age-standardised¹ incidence and mortality by sex and country, 2004–06²**

United Kingdom

1 Directly age-standardised using the European standard population.

2 Rates are calculated as three-year averages.

Figure 6**Stomach cancer: age-standardised¹ incidence and mortality by sex and country, 2004–06²**

United Kingdom

1 Directly age-standardised using the European standard population.

2 Rates are calculated as three-year averages.

In Northern Ireland, overall incidence and mortality rates were very close to those for the UK as a whole. The rates for colorectal cancer were higher than those for the UK; incidence was 14 per cent higher in both males and females while mortality was 27 per cent higher in males and 21 per cent higher in females. The mortality rate for bladder cancer was 26 per cent lower in males compared with the UK as a whole, and 24 per cent lower in females. The incidence and mortality rates for breast cancer were the lowest in the UK.

Previously published data

UK data for 2003–05 were published in *Health Statistics Quarterly* 40.² Additionally, ONS has analysed trends in UK incidence and mortality 1993–2004.³

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Cancer Registries in the United Kingdom

Welsh Cancer Intelligence and Surveillance Unit
Scottish Cancer Registry
Northern Ireland Cancer Registry

Regional Registries in England

Northern and Yorkshire Cancer Registry
Trent Cancer Registry
Eastern Cancer Registration and Information Centre
Thames Cancer Registry
Oxford Cancer Intelligence Unit
South West Cancer Intelligence Service
West Midlands Cancer Intelligence Unit
North West Cancer Intelligence Service

Background notes

1. Incidence and mortality rates have been directly age-standardised, using the European standard population, to control for differences in the age structure of the population between countries, and over time, to allow unbiased comparisons between rates.
2. The Office for National Statistics has been advised, both by expert epidemiologists and by members of the Advisory Committee on Cancer Registration, that non-melanoma skin cancer (ICD-10 C44) is greatly under-registered. Registration varies widely depending on a registry's degree of access to out-patient records and general practitioners. Incidence figures given in this report for 'all cancers' therefore exclude non-melanoma skin cancer.
3. The incidence figures in this report are those published at the time of the annual statistical releases. The cancer registration systems are live databases. Therefore, the figures presented here may not reflect those on the live databases.
4. Numbers and rates presented in this report have been calculated as three-year averages to reduce the effects of random variation in small numbers over time.
5. These data are available on the Office for National Statistics website at: www.statistics.gov.uk/statbase/Product.asp?vlnk=14209

References

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