

The impact of updating cancer survival methodologies for national estimates

A comparison of the new method applied in producing national cancer survival estimates in England compared to previous methods.

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1 . Introduction

From June 2017 onwards, the Office for National Statistics (ONS) and Public Health England (PHE) will be in partnership to produce England cancer survival estimates for:

- Adult cancer survival (National Statistics)
- Adult cancer survival by stage at diagnosis (Experimental Statistics)
- Cancer survival for children (Experimental Statistics)

This report compares the methods currently used (from June 2017) in producing these national survival statistics to methods used previously. It does not consider the methodology applied to sub-national cancer survival estimates.

2 . Collaboration

This publication is produced in partnership with Public Health England Cancer Survival Team, part of the National Cancer Registration and Analysis Service (NCRAS).



3 . Relevance to policy

The Official Statistics on cancer survival form an evidence base to inform cancer policy and programmes that aim to improve cancer outcomes. The statistics are commissioned by the Department of Health and are used to:

- help inform government policy on cancer
- provide non-government bodies with accurate and timely data on the disease
- provide citizens with accessible data on the disease to help inform debate

To ensure the data is relevant, ONS and PHE strive to produce estimates that are timely, accurate and accessible.

4 . Adult cancer survival

Overview of methodological aspects

The following elements of cancer survival methodology are compared; the cancer registrations that are included in the analysis (exclusion / inclusion criteria), the type of survival estimator (net versus relative survival), the weights used to age-standardise the estimates and the version of International Coding Definition (ICD) used to define cancer sites (summary of methods).

Table 1: Summary of methods

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border-width:1px;overflow:hidden;word-break:normal;} .tg .tg-yw4l{vertical-align:top}
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Method	Rationale	Outcome
Exclusion /inclusion criteria	We will continue to use the same criteria that have been historically applied. The method is outlined in the Control of data quality for population – based cancer survival analysis paper (Li R 2014). These are supplemented by further data quality checks proposed by the European Network of Cancer Registrations (ENCR) (Martos C 2014)	No change in method
Survival estimation method	Since 2012, net survival (Pohar Perme M 2012), using an unbiased estimator has been used instead of relative survival. The partnership will continue to produce net survival estimates. This is the most appropriate method for official statistics as it: <ul style="list-style-type: none"> • removes the effect of general mortality, so only reflects “excess” mortality due to diagnosis of cancer • is internationally comparable, with a growing will within the UK & Ireland Association of Cancer Registries to move to the same methods and eventually UK – wide statistics 	No change in method We will continue to produce net survival estimates for 1-, 5- and 10-years of follow - up.
Weights used to age-standardise the estimates	The weights historically used derived from the Cancer Survival Trends book (Coleman M 1999) based on incidence from 1986 to 1990 (Table A1, Appendix 1).	We will be moving to the International cancer patient population for age standardising survival ratios (ICSS) (Corazziari I 2004) for the publications from June 2017 onwards.
ICD coding version	Currently, the tumour sites in all ONS’s cancer survival, incidence and mortality bulletins are defined using ICD10 - O2 (Table A10, Appendix 4). Clinical practice and evidence now suggests that a move to ICD - O3 would produce more homogenous cohorts.	No change in method at present Being considered for future publications
Predicting 10-year survival	We will continue to use the same approach to calculating predictive estimates that have been applied in previous publications, the hybrid method, which is outlined in the Hybrid analysis for up-to-date long-term survival rates in cancer registries with delayed recording of incident cases paper (Brenner H 2004) .	No change in method

In summary, the main change to methods is the adoption of the International Classification of Survival Standard (ICSS) international cancer patient population for age standardising survival ratios.

The reasoning for this change is fourfold:

- they are publicly and readily available.
- these weights are widely used, for example in the UK by [Northern Ireland and Scotland](#) and internationally by the [United States National Cancer Institute](#) and by the [International Cancer Benchmark Partnership](#).
- it will be a step towards enabling national comparisons within the UK and international comparisons of survival estimates.
- the ICSS weights continue to vary by tumour type reflecting age distributions of the different cancers.

A summary of the International Cancer Survival Standard for age-standardisation.

When studying diseases present in a population, many of these diseases and their effects are closely related to age. Although comparing survival rates for specific age-groups can be informative, it is often useful to be able to have a summary of survival for every patient in the population diagnosed with a type of cancer. Comparisons using a summary estimate made over time or between geographies can be misleading if the age profiles of the underlying populations are different.

To overcome these potential drawbacks, a weighted average of the age-specific rates is calculated; this process is called age-standardisation. The weights used are independent of geography and time, so they allow for direct comparison of survival estimates over time and between different geographically – defined populations.

Many types of cancer, like lung cancer, are more commonly diagnosed as age increases; others, like Hodgkin's lymphoma, are more commonly found in younger people. There are also cancers, like brain cancer, that have two peaks in the age distribution where they are commonly diagnosed in the younger and older age-groups but are less commonly diagnosed in middle age. A fourth profile, similar to the first group, is observed for prostate cancer but is far less likely to occur in younger men than other cancers fitting the first profile.

The ICSS system of weights (Table A2) results from analysing which cancer types best fit one of the population profiles described above. An optimal set of weights is then determined that provides the largest number of estimates with good agreement between the standardised and raw survival estimates. There are four sets of weights, reflecting the four commonly observed age profiles of diagnosing different cancers and the weights are set out in Table A2.

Please note that the results throughout this paper have been presented to allow a direct comparison to the previously published estimates. Therefore, allowing the sole impact of the change in age-standardisation methodology to be assessed. These adult cancer survival estimates do not observe all the quality controls for robustness that will be applied to the [National Statistics](#), where there is the potential for some cancer sites having age-groups combined prior to age-standardisation or the age-standardised rate being suppressed in cases where the quality criteria is not fully met. Further information is detailed in the [Cancer survival statistical bulletins Quality and Methodology Information paper](#).

What is the impact of changes in aspects of the methodology on survival estimates?

To assess the impact of the change in the age-standardised weighting, we have run the new method on the same cohort of cancer registrations that was used to produce the survival estimates published in 2016 (Difference A column, Table 2). We also ran the new method on an updated cohort of cancer registrations from PHE, to assess the impact of change in data quality (Difference B column, Table 2), which focuses on 1-year survival as an example. Comparisons between 1-, 5- and 10-year survival for 24 common cancer sites are available in Appendix 2. The age-weights associated with both analyses can be found in Tables A1 and A2 of Appendix 1.

Table 2: Comparison of 1-year age-standardised survival estimates, patients diagnosed 2010 to 2014 and followed up to 2015, England, for 24 common cancer sites according to the previously published estimates (1), data used for the historic publication using ICSS weights (2) and updated data from PHE using the ICSS weights (3)

Cancer	Sex	Survival Estimates			Comparison of Survival Estimates	
		Published estimates (1)	Estimates obtained from previous data and ICSS weights (2)	Estimates obtained using updated data and ICSS weights (3)	Difference A: (2) - (1)	Difference B: (3) - (2)
Bladder	M	78.0%	78.8%	78.7%	0.8%	-0.1%
	F	66.9%	66.4%	66.3%	-0.5%	0.1%
Brain	M	46.4%	36.7%	37.1%	-9.7%	0.4%
	F	46.6%	35.7%	36.2%	-10.9%	0.5%
Breast	F	96.3%	95.5%	95.4%	-0.8%	-0.1%
Cervix	F	84.5%	80.9%	80.8%	-3.6%	0.1%
Colon	M	77.6%	77.1%	77.0%	-0.5%	-0.1%
	F	75.8%	75.6%	75.5%	-0.2%	-0.1%
Colorectum	M	75.3%	79.4%	79.2%	4.1%	-0.2%
	F	73.9%	77.5%	77.4%	3.6%	-0.1%
Hodgkin lymphoma	M	91.3%	88.2%	88.2%	-3.1%	0.0%
	F	93.0%	91.1%	91.1%	-1.9%	0.0%
Kidney	M	76.9%	75.6%	75.6%	-1.3%	0.0%
	F	77.6%	75.6%	75.7%	-2.0%	0.1%
Larynx	M	85.5%	84.9%	84.7%	-0.6%	-0.2%
Leukaemia	M	69.6%	70.5%	70.9%	0.9%	0.4%
	F	67.4%	68.1%	68.5%	0.7%	0.4%
Liver	M	36.3%	35.7%	36.1%	-0.6%	0.4%
	F	32.7%	30.6%	30.9%	-2.1%	0.3%
Lung	M	34.4%	34.1%	34.1%	-0.3%	0.0%
	F	40.3%	40.4%	40.5%	0.1%	0.1%
Melanoma	M	96.7%	96.8%	96.7%	0.1%	-0.1%
	F	98.4%	98.4%	98.3%	0.0%	-0.1%
Mesothelioma	M	45.9%	42.1%	42.1%	-3.8%	0.0%
	F	51.4%	47.6%	47.7%	-3.8%	0.1%
Myeloma	M	79.0%	80.7%	80.7%	1.7%	0.0%
	F	79.0%	80.3%	80.3%	1.3%	0.0%
Non-Hodgkin lymphoma	M	79.1%	77.5%	77.5%	-1.6%	0.0%
	F	81.9%	80.0%	80.0%	-1.9%	0.0%
Oesophagus	M	44.3%	45.0%	45.0%	0.7%	0.0%
	F	44.4%	44.6%	44.6%	0.2%	0.0%
Ovary	F	76.5%	70.3%	70.2%	-6.2%	-0.1%

Pancreas	M	22.1%	22.5%	22.5%	0.4%	0.0%
	F	22.9%	23.9%	24.1%	1.0%	0.2%
Prostate	M	94.4%	96.2%	96.1%	1.8%	-0.1%
Rectum	M	82.2%	83.1%	83.0%	0.9%	-0.1%
	F	81.4%	82.1%	81.9%	0.7%	-0.2%
Stomach	M	45.1%	46.8%	46.8%	1.7%	0.0%
	F	43.9%	44.9%	44.9%	1.0%	0.0%
Testis	M	98.4%	96.1%	96.0%	-2.3%	-0.1%
Thyroid	M	89.3%	89.6%	89.5%	0.3%	-0.1%
	F	91.5%	91.4%	91.4%	-0.1%	0.0%
Uterus	F	90.5%	89.4%	89.3%	-1.1%	-0.1%

Source: Office for National Statistics, National Cancer Registration and Analysis Service – Public Health England

Notes:

1. 'Previous data' is from the Office for National Statistics.
2. 'Updated data' is from Public Health England.

Table 2 shows that the impact from changing age-weights when using the same underlying data. The absolute differences, in Difference A, range from 0.1% to 10.9% in males (melanoma of skin and brain cancer) and from 0% to 9.7% in females (melanoma of skin and brain cancer).

However, when the updated data and the same ICSS weights are used (Difference B), the absolute differences are much smaller than those found when comparing the different weights (Difference A).

In males, the differences resulting from updating the data range from 0% (Hodgkin lymphoma, kidney, lung, mesothelioma myeloma, non-Hodgkin lymphoma, oesophagus, pancreas, stomach cancer) to 0.4% (brain, leukaemia and liver cancer) (Difference B).

In females, the differences resulting from updating the data range from 0% (Hodgkin lymphoma, myeloma, non-Hodgkin lymphoma, oesophagus, stomach and thyroid cancer in females) to 0.5% in females (brain cancer) (Difference B).

This indicates that small changes to the underlying data as a result late registration of cancer diagnoses do not substantially impact the survival estimates, but the choice of age-weights does substantially impact the survival estimates.

The full extent of the differences of the previously published estimates and the estimates obtained from using current cancer registration data and the ICSS weights are shown in Table A3 (1-year survival), Table A4 (5-year survival) and Table A5 (10-year survival) in the appendix.

Why does the change in age-weighting systems result in these differences in the survival estimates?

As a result of adopting the ICSS weighting, when we consider the combinations of cancer site and gender that form the top 24 cancers by incidence, 31 cancer sites had an absolute difference of less than 2%, 9 cancer sites had an absolute difference between 2% and 5%, and 3 cancer sites had an absolute difference greater than 5% (Table 2, Difference A).

The cancer sites that had absolute differences greater than 5% are ovary (females) and brain (males, females). These are cancer sites with age profiles that are substantially different to the common profile of increasing incidence by age. The differences are similar for 5-year survival estimates, with the same sites continuing to have absolute differences greater than 5% with the addition of cervix (females) (Table A4).

The observed differences may partially be explained by the categorisation of age-groups. The new analysis uses five age-groups and weights set out by the ICSS, whereas the previous analyses used six age-groups and weights provided in Table A1 (Coleman M 1999). Consequently, the age-group boundaries differ, as does the relative amount of weighting given to younger and older patients.

The difference in the number of age-groups means that the age-weightings are not the same and therefore results are not directly comparable. However, when we examine the number of patients from each age-group diagnosed in recent years and compare it with the weight applied to the corresponding age-group (see Table A3), we observe that:

(a) for ovarian cancer, the ICSS weighting gives approximately the same weighting as the incidence proportion except for the final age-group where a higher weighting is given by the ICSS weighting system;

(b) for testicular cancer, the ICSS weighting gives a higher weighting in those aged 55 and over even though the incidence proportion is substantially lower for these age-groups in relative terms, whereas the previous weighting system gives approximately the same weighting as the incidence proportion; and

(c) for brain cancer, the ICSS weighting gives more weight to the youngest age-group and less weight to the eldest age-group in contrast to the incidence proportion which is the other way around, whereas the previous weighting system gives more weight to the middle age-groups and very low weight to the eldest age-group.

The [2016 published data](#) provided 10-year survival estimates for bladder (male), breast, colorectal, kidney, melanoma, prostate, non-Hodgkin lymphoma, leukaemia and colon (male). Not every combination of sex and cancer type produces robust estimates of 10-year survival, which is why this group is a selection of those forming the main body of the publication. Of the comparable survival estimates that were provided (N=13), 7 were within 5% absolute difference and 6 had an absolute difference greater than 5%. The sites that had a difference greater than 5% were breast cancer (negative 7.3%), kidney cancer (negative 10.4% males, negative 11.7% females), leukaemia (negative 6.7% males, negative 6.8% females), non-Hodgkin lymphoma (negative 10.5%) (Table A5).

5 . Childhood cancer survival

What methodological changes are being implemented?

Current and historical estimates use the same methodology.

The methodology for children's cancers is less complicated to implement than for adult cancers. This is due to the childhood methodology taking an overall survival approach. In adults, the net survival indicator is used in order to compensate for mortality from other causes, which may be considerable. For children with cancer, by contrast, overall survival is considered a reliable estimator of cancer survival because, unlike in adults, death within 5 years of diagnosis is almost always due to the cancer. Therefore, no life tables are used to adjust for background mortality. Overall survival for children aged 0 to 14 are calculated using the Kaplan-Meier method (Kaplan EL 1958).

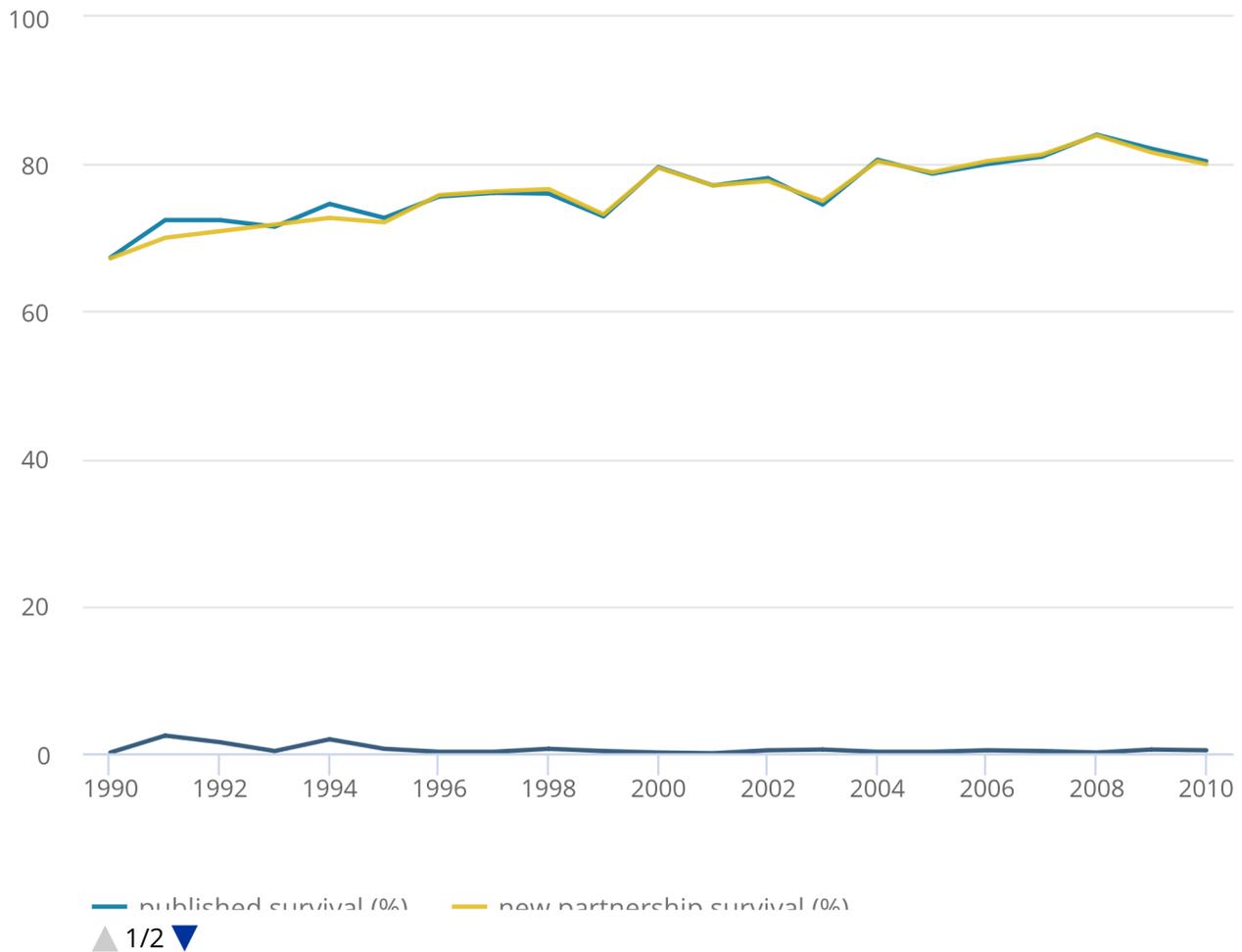
When re-estimating previously published estimates we can observe minor changes; these have resulted from using updated cancer registration data, rather than methodological changes in the way data are analysed (Figure 1). These estimates are compared in Tables A8 (5-year, age-standardised, unsmoothed childhood cancer survival) and A9 (10-year, age-standardised, unsmoothed childhood cancer survival) in Appendix 3.

Figure 1: Comparison of 5-year, age-standardised, unsmoothed childhood cancer survival

England, 1990 to 2010

Figure 1: Comparison of 5-year, age-standardised, unsmoothed childhood cancer survival

England, 1990 to 2010



Source: Office for National Statistics, National Cancer Registration and Analysis Service – Public Health England

Source: Office for National Statistics, National Cancer Registration and Analysis Service – Public Health England

6 . Which publications will be impacted?

To date ONS has published a suite of cancer survival publications, summarised below:

- Cancer survival in England: Adults
- Geographic patterns of cancer survival
- Index of cancer survival for Clinical Commissioning Groups
- Childhood cancer survival

We have also published in partnership with PHE:

- Cancer survival by stage at diagnosis for England

The method changes outlined in this paper will only impact the Cancer survival in England: Adults publication. Our intention is to rationalise the number of publications. Therefore, we intend to bring all the national level estimates together into one publication which will first be published on 29th June 2017. This publication will contain the estimates for:

- Adult cancer survival for England
- Cancer survival by stage
- Childhood cancer survival for England

The combined publication will contain the same analysis as previously published in the historic publications, but by bringing them together the results are more timely and it will be easier for users to find and compare the analyses.

7 . References

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8 . Appendices

Appendix 1: Standardised weight tables

Table A1: Weights for age-standardisation: numbers (%) of adults included in analyses, England and Wales, patients diagnosed 1986 to 1990 (Coleman M 1999)

	Age-group (years)													
	15 to 39		40 to 49		50 to 59		60 to 69		70 to 79		80 to 99		All ages	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Lip	23	2	61	5	145	13	307	27	381	33	228	20	1,145	100
Tongue	132	5	281	10	514	19	772	28	711	26	368	13	2,778	100
Salivary glands	142	9	146	9	235	15	358	23	384	25	279	18	1,544	100
Oral cavity	124	3	336	9	721	20	1,128	31	912	25	473	13	3,694	100
Oropharynx	46	3	185	11	375	23	545	34	326	20	143	9	1,620	100
Nasopharynx	108	14	100	13	147	19	220	28	153	20	46	6	774	100
Hypopharynx	15	1	110	7	312	19	522	32	455	28	198	12	1,612	100
Oesophagus	167	1	701	3	2,442	12	5,885	28	7,184	35	4,351	21	20,730	100
Stomach	450	1	1,281	3	4,293	10	11,492	26	15,905	36	10,164	23	43,585	100
Small intestine	46	3	111	7	256	17	428	29	423	28	224	15	1,488	100
Colon	894	1	2,670	4	7,435	11	17,461	25	23,626	35	16,395	24	68,481	100
Rectum	541	1	1,871	4	5,671	13	12,574	28	14,901	34	8,830	20	44,388	100
Liver	145	4	180	5	544	15	1,083	30	1,141	31	573	16	3,666	100
Gallbladder	40	1	184	4	541	11	1,270	25	1,752	35	1,198	24	4,985	100
Pancreas	202	1	774	3	2,446	11	6,154	27	8,047	35	5,194	23	22,817	100
Nasal cavities, sinuses	81	5	122	7	271	16	479	28	493	29	265	15	1,711	100
Larynx	96	1	538	6	1,676	19	3,282	37	2,393	27	802	9	8,787	100
Lung	876	1	4,585	3	17,796	12	51,364	35	51,775	35	19,679	13	146,075	100
Pleura	38	1	256	8	651	20	1,125	35	862	27	272	8	3,204	100
Thymus	32	19	30	18	36	22	39	23	23	14	7	4	167	100
Bone	607	37	162	10	196	12	272	17	232	14	161	10	1,630	100
Connective tissue	796	19	459	11	613	15	901	22	859	21	498	12	4,126	100
Melanoma of skin	3,245	20	2,784	17	2,759	17	3,244	20	2,578	16	1,330	8	15,940	100
Breast	7,092	6	18,255	16	23,667	20	29,809	25	24,459	21	14,457	12	117,739	100
Cervix	5,370	28	3,650	19	2,866	15	3,671	19	2,473	13	1,078	6	19,108	100
Uterus	275	2	1,114	7	3,926	24	5,149	31	4,106	25	1,938	12	16,508	100
Ovary	1,270	6	2,424	11	4,466	21	5,949	28	4,784	23	2,348	11	21,241	100
Vagina and vulva	162	3	198	4	408	9	902	19	1,533	33	1,457	31	4,660	100
Prostate	33	0	171	0	2,214	4	12,598	24	23,384	45	13,510	26	51,910	100
Testis	3,848	69	1,027	18	390	7	170	3	104	2	42	1	5,581	100
Penis	58	4	109	8	203	15	339	26	398	30	218	16	1,325	100

Bladder	650	1	1,653	3	5,756	12	14,269	29	17,460	35	9,530	19	49,318	100
Kidney	455	3	1,109	7	2,766	18	4,712	31	4,344	29	1,784	12	15,170	100
Eye	148	9	190	11	319	18	493	28	409	24	178	10	1,737	100
Brain	1,951	16	1,600	13	2,510	21	3,541	30	1,996	17	403	3	12,001	100
Thyroid	913	25	478	13	517	14	698	19	635	18	342	10	3,583	100
Non-Hodgkin lymphoma	2,015	8	2,305	10	3,706	16	6,097	26	6,374	27	3,222	14	23,719	100
Hodgkin's disease	2,756	55	612	12	560	11	547	11	393	8	153	3	5,021	100
Multiple myeloma	83	1	390	4	1,362	13	2,899	28	3,601	34	2,195	21	10,530	100
Acute lymphoid leukaemia	495	44	120	11	108	10	144	13	158	14	95	8	1,120	100
Chronic lymphoid leukaemia	36	1	154	2	655	10	1,607	25	2,241	35	1,633	26	6,326	100
Acute myeloid leukaemia	649	12	441	8	712	13	1,362	24	1,582	28	880	16	5,626	100
Chronic myeloid leukaemia	284	10	215	7	331	11	551	19	825	28	690	24	2,896	100
Monocytic leukaemia	21	7	19	6	31	10	51	17	106	34	81	26	309	100
All leukaemias	1,571	9	1,020	6	1,942	11	4,020	23	5,413	30	3,791	21	17,757	100
Spinal cord	73	38	38	20	35	18	31	16	13	7	3	2	193	100
Adrenal	68	21	38	12	71	22	83	25	54	17	13	4	327	100
Pituitary	47	21	34	15	50	22	61	27	25	11	10	4	227	100
All cancers analysed	37,684	5	54,342	7	107,809	14	216,943	28	237,474	30	128,350	16	782,602	100

Source: Coleman M, et al. 1999. Cancer Survival Trends in England and Wales 1971 to 1995 Deprivation and NHS Region. Office for National Statistics

Table A2: International cancer patient population for age-standardising survival ratios (Corazziari I 2004)

Age Standard for Survival	Population Weights		
	ICSS 1	ICSS 2	ICSS 3
15 to 44 years	0.07	0.28	0.6
45 to 54 years	0.12	0.17	0.1
55 to 64 years	0.23	0.21	0.1
65 to 74 years	0.29	0.2	0.1
75 to 99 years	0.29	0.14	0.1

Age Standard for Survival	Population Weights	
	ICSS 4	
15 to 54 years	0.19	
55 to 64 years	0.23	
65 to 74 years	0.29	
75 to 84 years	0.23	
85 to 99 years	0.06	

Groups	Sites
ICSS 1	All sites except for those listed in the below groups:
ICSS 2	Nasopharynx, Soft Tissue, Melanoma, Cervix, Brain, Thyroid and Bone
ICSS 3	Testis, Hodgkin, Acute lymphoblastic leukaemia
ICSS 4	Prostate

Source: Corazziari I, et al. 2004. "Standard cancer patient population for age standardising survival ratios." European Journal of Cancer 15: 2307-2316.

Appendix 2: Adult survival comparisons

Table A3: Comparison of 1-year, age-standardised, survival estimates, patients diagnosed 2010 to 2014 and followed up to 2015, England, for 24 common cancers

Cancer	Sex	Published number of patients	Published estimate based on historic weights	Updated number of patients	New estimates based on ICSS weights	% point difference
Bladder	M	31,239	78.0% (77.5 - 78.5)	31,254	78.7% (78.1 - 79.2)	0.7%
	F	11,770	66.9% (66.0 - 67.9)	11,769	66.3% (65.2 - 67.3)	-0.6%
Brain	M	11,065	46.4% (45.1 - 47.7)	10,978	37.1% (36.0 - 38.2)	-9.3%
	F	8,026	46.6% (45.1 - 48.2)	7,964	36.2% (35.0 - 37.5)	-10.4%
Breast	F	201,839	96.3% (96.2 - 96.4)	200,293	95.4% (95.3 - 95.5)	-0.9%
Cervix	F	12,545	84.5% (83.6 - 85.3)	12,549	80.8% (79.9 - 81.8)	-3.7%
Colon	M	56,889	75.3% (74.9 - 75.7)	56,610	77.0% (76.6 - 77.3)	1.7%
	F	51,769	73.9% (73.5 - 74.3)	51,482	75.5% (75.1 - 75.9)	1.6%
Colorectum	M	93,117	77.6% (77.3 - 77.9)	91,486	79.2% (79.0 - 79.5)	1.6%
	F	73,344	75.8% (75.5 - 76.1)	72,313	77.4% (77.1 - 77.7)	1.6%
Hodgkin lymphoma	M	4,349	91.3% (90.4 - 92.1)	4,293	88.2% (87.2 - 89.3)	-3.1%
	F	3,384	93.0% (92.2 - 93.9)	3,341	91.1% (90.2 - 92.1)	-1.9%
Kidney	M	27,855	76.9% (76.3 - 77.4)	27,934	75.6% (75.1 - 76.2)	-1.3%
	F	16,670	77.6% (76.9 - 78.2)	16,762	75.7% (75.0 - 76.4)	-1.9%
Larynx	M	7,579	85.5% (84.7 - 86.4)	7,585	84.7% (83.8 - 85.7)	-0.8%
Leukaemia	M	21,397	69.6% (68.9 - 70.3)	21,404	70.9% (70.3 - 71.5)	1.3%
	F	14,476	67.4% (66.6 - 68.3)	14,474	68.5% (67.7 - 69.3)	1.1%
Liver	M	12,678	36.3% (35.4 - 37.2)	12,688	36.1% (35.2 - 37.0)	-0.2%
	F	7,071	32.7% (31.5 - 34.0)	7,087	30.9% (29.8 - 32.1)	-1.8%
Lung	M	95,859	34.4% (33.7 - 34.4)	95,873	34.1% (33.8 - 34.5)	-0.3%
	F	79,781	40.3% (40.0 - 40.7)	79,794	40.5% (40.1 - 40.9)	0.2%
Melanoma	M	27,909	96.7% (96.4 - 96.9)	27,469	96.7% (96.4 - 96.9)	0.0%
	F	28,830	98.4% (98.2 - 98.6)	28,329	98.3% (98.1 - 98.5)	-0.1%
Mesothelioma	M	9,541	45.9% (44.5 - 47.3)	9,551	42.1% (40.7 - 43.6)	-3.8%
	F	1,992	51.4% (48.9 - 54.0)	1,994	47.7% (45.3 - 50.1)	-3.7%
Myeloma	M	12,110	79.0% (78.2 - 79.8)	12,219	80.7% (80.0 - 81.4)	1.7%
	F	9,364	79.0% (78.2 - 79.9)	9,453	80.3% (79.5 - 81.1)	1.3%
Non-Hodgkin lymphoma	M	29,518	79.1% (78.6 - 79.6)	29,037	77.5% (77.0 - 78.0)	-1.6%
	F	24,446	81.9% (81.4 - 82.4)	24,072	80.0% (79.4 - 80.5)	-1.9%
Oesophagus	M	23,934	44.3% (43.6 - 45.0)	23,931	45.0% (44.3 - 45.7)	0.7%
	F	11,496	44.4% (43.4 - 45.4)	11,493	44.6% (43.5 - 45.6)	0.2%
Ovary	F	29,579	76.5% (76.0 - 77.0)	29,529	70.2% (69.6 - 70.8)	-6.3%
Pancreas	M	18,661	22.1% (20.4 - 21.7)	18,631	22.5% (21.9 - 23.2)	0.4%
	F	18,564	22.9% (22.2 - 23.5)	18,538	24.1% (23.5 - 24.8)	1.2%
Prostate	M	187,664	94.4% (94.2 - 94.6)	189,133	96.1% (96.0 - 96.2)	1.7%

Rectum	M	36,228	82.2% (81.7 - 82.6)	36,265	83.0% (82.5 - 83.4)	0.8%
	F	21,575	81.4% (80.8 - 82.0)	21,600	81.9% (81.4 - 82.5)	0.5%
Stomach	M	18,300	45.1% (44.3 - 45.9)	18,286	46.8% (46.0 - 47.6)	1.7%
	F	9,665	43.9% (42.8 - 45.0)	9,653	44.9% (43.8 - 46.0)	1.0%
Testis	M	9,324	98.4% (98.1 - 98.7)	9,269	96.0% (95.0 - 97.1)	-2.4%
Thyroid	M	3,526	89.3% (88.0 - 90.6)	3,512	89.5% (88.4 - 90.7)	0.2%
	F	9,239	91.5% (90.6 - 92.3)	9,204	91.4% (90.6 - 92.1)	-0.1%
Uterus	F	36,048	90.5% (90.2 - 90.9)	36,043	89.3% (89.0 - 89.7)	-1.2%

Source: Office for National Statistics, National Cancer Registration and Analysis Service – Public Health England

Notes:

1. Published estimates are based on data from the Office for National Statistics.
2. New estimates are based on data from Public Health England.

Table A4: Comparison of 5-year, age-standardised, survival estimates, patients diagnosed 2010 to 2014 and followed up to 2015, England, for 24 common cancers

Cancer	Sex	Published number of patients	Published estimate based on historic weights	Updated number of patients	New estimates based on ICSS weights	% point difference
Bladder	M	31,239	57.1% (56.1 - 58.1)	31,254	59.0% (58.1 - 59.8)	1.9%
	F	11,770	48.0% (46.6 - 49.4)	11,769	47.2% (46.0 - 48.5)	-0.8%
Brain	M	11,065	18.3% (16.2 - 20.4)	10,978	10.1% (9.0 - 11.3)	-8.2%
	F	8,026	21.7% (19.4 - 24.0)	7,964	12.5% (11.3 - 13.8)	-8.8%
Breast	F	201,839	86.3% (86.0 - 86.7)	200,293	85.0% (84.7 - 85.4)	-1.3%
Cervix	F	12,545	66.8% (65.1 - 68.5)	12,549	60.0% (58.5 - 61.6)	-6.8%
Colon	M	56,889	57.3% (56.5 - 58.1)	56,610	58.8% (58.2 - 59.4)	1.5%
	F	51,769	57.3% (56.6 - 58.0)	51,482	58.5% (57.9 - 59.1)	1.5%
Colorectum	M	93,117	57.8% (57.2 - 58.4)	91,486	59.7% (59.2 - 60.1)	1.9%
	F	73,344	57.9% (57.3 - 58.5)	72,313	59.3% (58.8 - 59.8)	1.4%
Hodgkin lymphoma	M	4,349	84.5% (81.7 - 87.3)	4,293	79.7% (77.8 - 81.7)	-4.8%
	F	3,384	86.0% (84.2 - 87.8)	3,341	81.9% (80.2 - 83.7)	-4.1%
Kidney	M	27,855	58.8% (57.7 - 59.9)	27,934	57.9% (57.0 - 58.8)	-0.9%
	F	16,670	62.9% (61.7 - 64.0)	16,762	60.1% (59.1 - 61.1)	-2.8%
Larynx	M	7,579	65.5% (63.7 - 67.3)	7,585	65.8% (64.1 - 67.5)	0.3%
Leukaemia	M	21,397	50.8% (49.2 - 52.3)	21,404	51.7% (50.7 - 52.8)	0.9%
	F	14,476	50.3% (48.8 - 51.9)	14,474	50.9% (49.8 - 52.0)	0.6%
Liver	M	12,678	12.8% (11.7 - 14.0)	12,688	12.5% (11.7 - 13.4)	-0.3%
	F	7,071	11.2% (9.2 - 13.1)	7,087	9.1% (8.1 - 10.2)	-2.1%
Lung	M	95,859	11.4% (11.1 - 11.8)	95,873	12.0% (11.7 - 12.3)	0.6%
	F	79,781	15.5% (15.1 - 16.0)	79,794	16.0% (15.7 - 16.4)	0.5%
Melanoma	M	27,909	87.1% (86.3 - 87.9)	27,469	87.9% (87.3 - 88.5)	0.8%
	F	28,830	92.6% (92.0 - 93.2)	28,329	93.2% (92.7 - 93.7)	0.6%
Mesothelioma	M	9,541	5.5% (4.5 - 6.5)	9,551	4.9% (4.3 - 5.7)	-0.6%
	F	1,992	10.0% (7.4 - 12.6)	1,994	8.2% (6.6 - 10.3)	-1.8%
Myeloma	M	12,110	47.5% (45.4 - 49.5)	12,219	50.0% (48.6 - 51.4)	2.5%
	F	9,364	48.5% (46.5 - 50.5)	9,453	49.9% (48.5 - 51.3)	1.4%
Non-Hodgkin lymphoma	M	29,518	66.1% (65.2 - 67.1)	29,037	63.8% (63.0 - 64.7)	-2.3%
	F	24,446	70.8% (69.9 - 71.8)	24,072	67.9% (67.1 - 68.8)	-2.9%
Oesophagus	M	23,934	14.3% (13.5 - 15.1)	23,931	15.1% (14.5 - 15.8)	0.8%
	F	11,496	17.6% (16.3 - 18.8)	11,493	16.8% (15.8 - 17.7)	-0.8%
Ovary	F	29,579	49.5% (48.5 - 50.5)	29,529	41.9% (41.0 - 42.7)	-7.6%
Pancreas	M	18,661	5.2% (4.5 - 5.9)	18,631	5.9% (5.5 - 6.5)	0.7%
	F	18,564	6.2% (5.6 - 6.9)	18,538	6.7% (6.2 - 7.2)	0.5%

Prostate	M	187,664	83.6% (83.0 - 84.2)	189,133	87.2% (86.8 - 87.5)	3.6%
Rectum	M	36,228	59.4% (58.4 - 60.5)	36,265	60.6% (59.9 - 61.4)	1.2%
	F	21,575	60.0% (58.8 - 61.2)	21,600	60.4% (59.5 - 61.3)	0.4%
Stomach	M	18,300	18.3% (17.3 - 19.3)	18,286	19.8% (19.0 - 20.5)	1.5%
	F	9,665	21.1% (19.7 - 22.5)	9,653	21.7% (20.7 - 22.8)	0.6%
Testis	M	9,324	96.8% (96.1 - 97.5)	9,269	94.2% (92.0 - 96.4)	-2.6%
Thyroid	M	3,526	82.8% (79.6 - 86.0)	3,512	83.0% (81.0 - 85.1)	0.2%
	F	9,239	89.1% (87.5 - 90.7)	9,204	89.3% (88.1 - 90.5)	0.2%
Uterus	F	36,048	77.8% (77.0 - 78.6)	36,043	75.8% (75.1 - 76.5)	-2.0%

Source: Office for National Statistics, National Cancer Registration and Analysis Service – Public Health England

Notes:

1. Published estimates are based on data from the Office for National Statistics.
2. New estimates are based on data from Public Health England.

Table A5: Comparison of 10-year, age-standardised, survival estimates, patients diagnosed 2005 to 2014 and followed up to 2015, England, for 24 common cancers

Cancer	Sex	Mean number of eligible patients	Published estimate based on historic weights	Updated mean number eligible of patients	New estimates based on ICSS weights	% point difference
Bladder	M	3,026	51.6% (48.8 - 54.4)	3,364	49.0% (47.1 - 51.0)	-2.6%
	F	964	:	1,096	:	
Brain	M	520	:	636	:	
	F	386	:	461	:	
Breast	F	30,520	80.6% (79.6 - 81.5)	31,504	73.3% (72.4 - 74.3)	-7.3%
Cervix	F	1,767	:	1,870	:	
Colon	M	5,551	56.0% (53.5 - 58.4)	6,018	52.2% (50.7 - 53.7)	-3.8%
	F	5,071	:	5,466	:	
Colorectum	M	9,385	55.9% (53.9 - 57.9)	10,045	51.7% (50.5 - 52.9)	-4.2%
	F	7,440	56.0% (54.1 - 57.8)	7,939	53.2% (52.1 - 54.3)	-2.8%
Hodgkin lymphoma	M	637	:	651	:	
	F	506	:	514	:	
Kidney	M	2,672	56.9% (53.8 - 60.0)	2,914	46.5% (50.7 - 54.5)	-10.4%
	F	1,627	59.8% (56.5 - 63.1)	1,758	48.1% (45.6 - 50.8)	-11.7%
Larynx	M	884	:	960	:	
Leukaemia	M	1,928	44.8% (40.1 - 49.5)	2,129	38.1% (35.6 - 40.9)	-6.7%
	F	1,280	44.7% (40.7 - 48.7)	1,404	37.9% (35.8 - 40.2)	-6.8%
Liver	M	513	:	635	:	
	F	251	:	317	:	
Lung	M	3,508	:	4,388	:	
	F	3,344	:	4,093	:	
Melanoma	M	3,783	87.2% (84.8 - 89.6)	3,921	82.7% (80.9 - 84.6)	-4.5%
	F	4,447	91.5% (89.5 - 93.5)	4,517	88.3% (86.4 - 90.2)	-3.2%
Mesothelioma	M	287	:	401	:	
	F	71	:	97	:	
Myeloma	M	1,041	:	1,171	:	
	F	806	:	897	:	

Non-Hodgkin lymphoma	M	3,202	56.9% (53.9 - 59.9)	3,370	46.4% (44.2 - 48.7)	-10.5%
	F	2,814	:	2,926	:	
Oesophagus	M	1,078	:	1,341	:	
	F	506	:	627	:	
Ovary	F	2,846	:	3,125	:	
Pancreas	M	567	:	717	:	
	F	556	:	708	:	
Prostate	M	25,268	79.9% (77.9 - 81.9)	26,859	76.3% (75.0 - 77.5)	-3.6%
Rectum	M	3,835	:	4,177	:	
	F	2,369	:	2,559	:	
Stomach	M	897	:	1,083	:	
	F	477	:	565	:	
Testis	M	1,683	:	1,703	:	
Thyroid	M	461	:	476	:	
	F	1,386	:	1,410	:	
Uterus	F	4,880	:	5,111	:	

Source: Office for National Statistics, National Cancer Registration and Analysis Service – Public Health England

Notes:

1. Published estimates are based on data from the Office for National Statistics.
2. New estimates are based on data from Public Health England.
3. The ':' symbol denotes 'not available', because there was not sufficient data available to make robust estimates of survival.

Table A6: Numbers of patients and incidence proportions for the period 2010 to 2014, compared to the weighting system for the International Classification of Survival Standard and the previous publication

ICSS weights:

Age group	Incidence Counts (2010 to 2014)				Incidence Proportion				ICSS weights		
	Ovary	Testis	Brain, M	Brain, F	Ovary	Testis	Brain, M	Brain, F	Ovary	Testis	Others
15 to 44	3,509	6,854	1,830	1,257	0.12	0.74	0.17	0.16	0.07	0.6	0.28
45 to 54	4,316	1,506	1,481	1,009	0.15	0.16	0.14	0.13	0.12	0.1	0.17
55 to 64	6,215	589	2,445	1,640	0.21	0.06	0.22	0.21	0.23	0.1	0.21
65 to 74	7,520	200	2,835	1,944	0.25	0.02	0.26	0.24	0.29	0.1	0.2
75 to 99	7,969	120	2,387	2,114	0.27	0.01	0.22	0.27	0.29	0.1	0.14

NA

Source: National Cancer Registration and Analysis Service – Public Health England

Notes:

1. Incidence counts are based on data from Public Health England.

Previous weights:

Age group	Incidence Counts (2010 to 2014)				Incidence Proportion				Previous Weights		
	Ovary	Testis	Brain, M	Brain, F	Ovary	Testis	Brain, M	Brain, F	Ovary	Testis	Brain
15 to 39	2,296	5,720	1,392	926	0.08	0.61	0.13	0.12	0.06	0.69	0.16
40 to 49	3,160	2,137	1,144	793	0.11	0.23	0.1	0.1	0.11	0.18	0.13
50 to 59	5,120	904	1,868	1,269	0.17	0.1	0.17	0.16	0.21	0.07	0.21
60 to 69	7,496	367	2,935	1,962	0.25	0.04	0.27	0.24	0.28	0.03	0.3
70 to 79	6,762	131	2,448	1,841	0.23	0.01	0.22	0.23	0.23	0.02	0.17
80 to 99	4,745	65	1,278	1,235	0.16	0.01	0.12	0.15	0.11	0.01	0.03

Source: Office for National Statistics

Notes:

1. Incidence counts are based on data from the Office for National Statistics.

Table A7: 1- and 5-year age-standardised survival estimates, patients diagnosed 2010 to 2014 and followed up to 2015, England, for 24 common cancers according to the data used for the historic publication and ICSS weights

Cancer	Sex	Number of patients	1-year survival using new international weight	5-year survival using new international weight
Bladder	M	31,173	78.8% (78.3 - 79.4)	58.6% (57.8 - 59.5)
	F	11,724	66.4% (65.3 - 67.4)	47.1% (45.9 - 48.4)
Brain	M	10,928	36.7% (35.6 - 37.8)	9.5% (8.5 - 10.7)
	F	7,915	35.7% (34.5 - 37.0)	12.3% (11.2 - 13.6)
Breast	F	200,192	95.5% (95.4 - 95.7)	84.6% (84.3 - 85.0)
Cervix	F	12,535	80.9% (79.9 - 81.8)	59.5% (58.0 - 61.1)
Colon	M	56,523	77.1% (76.7 - 77.4)	58.5% (57.9 - 59.1)
	F	51,359	75.6% (75.2 - 76.0)	58.1% (57.6 - 58.7)
Colorectal	M	91,226	79.4% (79.1 - 79.7)	59.3% (58.9 - 59.8)
	F	71,943	77.5% (77.1 - 77.8)	58.9% (58.5 - 59.4)
Hodgkin lymphoma	M	4,293	88.2% (87.2 - 89.3)	79.4% (77.4 - 81.4)
	F	3,329	91.1% (90.1 - 92.0)	81.9% (80.2 - 83.7)
Kidney	M	27,713	75.6% (75.0 - 76.1)	57.5% (56.6 - 58.4)
	F	16,602	75.6% (74.9 - 76.2)	59.8% (58.8 - 60.9)
Larynx	M	7,567	84.9% (83.9 - 85.8)	65.1% (63.4 - 66.9)
Leukaemia	M	21,080	70.5% (69.9 - 71.2)	51.3% (50.3 - 52.3)
	F	14,240	68.1% (67.3 - 68.9)	50.4% (49.3 - 51.5)
Liver	M	12,581	35.7% (34.8 - 36.6)	12.1% (11.3 - 13.0)
	F	7,031	30.6% (29.5 - 31.8)	8.9% (8.0 - 10.0)
Lung	M	95,648	34.1% (33.7 - 34.4)	11.6% (11.3 - 11.9)
	F	79,534	40.4% (40.1 - 40.8)	15.6% (15.3 - 16.0)
Melanoma	M	27,472	96.8% (96.5 - 97.0)	87.7% (87.0 - 88.3)
	F	28,321	98.4% (98.2 - 98.6)	93.0% (92.5 - 93.5)
Mesothelioma	M	9,526	42.1% (40.7 - 43.6)	4.4% (3.7 - 5.1)
	F	1,989	47.6% (45.3 - 50.0)	7.3% (5.8 - 9.2)
Myeloma	M	12,105	80.7% (79.9 - 81.4)	48.9% (47.5 - 50.3)
	F	9,366	80.3% (79.5 - 81.1)	49.3% (47.9 - 50.7)
Non-Hodgkin Lymphoma	M	28,931	77.5% (77.0 - 78.1)	63.5% (62.7 - 64.4)
	F	23,969	80.0% (79.4 - 80.5)	67.7% (66.9 - 68.6)
Oesophagus	M	23,895	45.0% (44.4 - 45.7)	14.8% (14.1 - 15.4)
	F	11,473	44.6% (43.6 - 45.7)	16.3% (15.4 - 17.3)
Ovary	F	29,541	70.3% (69.7 - 70.9)	41.5% (40.6 - 42.3)
Pancreas	M	18,580	22.5% (21.8 - 23.1)	5.8% (5.3 - 6.3)
	F	18,453	23.9% (23.2 - 24.5)	6.5% (6.0 - 7.0)
Prostate	M	188,073	96.2% (96.1 - 96.3)	87.2% (86.9 - 87.6)

Rectum	M	36,211	83.1% (82.7 - 83.5)	60.1% (59.4 - 60.9)
	F	21,550	82.1% (81.5 - 82.6)	60.0% (59.1 - 60.9)
Stomach	M	18,258	46.8% (46.0 - 47.6)	19.4% (18.6 - 20.2)
	F	9,628	44.9% (43.8 - 46.0)	21.3% (20.2 - 22.4)
Testis	M	9,264	96.1% (95.0 - 97.2)	94.4% (92.2 - 96.6)
Thyroid	M	3,503	89.6% (88.4 - 90.7)	82.9% (80.8 - 85.0)
	F	9,186	91.4% (90.7 - 92.2)	89.4% (88.2 - 90.6)
Uterus	F	35,985	89.4% (89.0 - 89.8)	75.6% (74.9 - 76.4)

Source: Office for National Statistics

Appendix 3: Comparison of childhood estimates

Table A8: 5-year, unsmoothed, age-standardised cancer survival estimates (%) with 95% confidence intervals for children (aged 0 to 14 years) diagnosed with cancer in England between 1990 and 2010 by year of diagnosis

Diagnosis Year	All ages – published				All ages – new partnership				Absolute % difference in survival
	No of patients	Standardised 5-year survival (%)	LCI	UCI	No of patients	Standardised 5-year survival (%)	LCI	UCI	
1990	1,132	67.3	62.3	72.2	995	67.2	64.3	70.4	0.1
1991	1,102	72.4	67.6	77.3	924	70.0	67.0	73.2	2.4
1992	1,132	72.4	67.7	77.1	962	70.9	68.0	73.9	1.5
1993	1,213	71.5	66.9	76.1	1,013	71.8	69.0	74.8	0.3
1994	1,249	74.6	70.3	78.9	1,052	72.7	70.0	75.5	1.9
1995	1,232	72.7	68.3	77.1	1,170	72.1	69.5	74.8	0.6
1996	1,216	75.6	71.2	79.9	1,143	75.8	73.3	78.4	0.2
1997	1,268	76.1	72.0	80.3	1,207	76.3	73.9	78.8	0.2
1998	1,261	76.0	71.8	80.2	1,197	76.6	74.1	79.1	0.6
1999	1,285	72.9	68.6	77.3	1,179	73.2	70.6	75.8	0.3
2000	1,217	79.6	75.5	83.6	1,140	79.5	77.1	81.9	0.1
2001	1,248	77.1	73.0	81.3	1,152	77.1	74.7	79.6	0.0
2002	1,352	78.1	74.1	82.0	1,258	77.7	75.4	80.1	0.4
2003	1,232	74.5	70.1	78.9	1,186	75.0	72.5	77.6	0.5
2004	1,297	80.6	76.8	84.4	1,222	80.4	78.2	82.7	0.2
2005	1,272	78.7	74.7	82.7	1,203	78.9	76.5	81.3	0.2
2006	1,312	80.0	76.2	83.9	1,202	80.4	78.1	82.7	0.4
2007	1,220	81.0	77.0	85.0	1,170	81.3	79.0	83.7	0.3
2008	1,276	84.0	80.4	87.6	1,289	83.9	81.8	86.0	0.1
2009	1,378	82.1	78.4	85.7	1,299	81.6	79.5	83.9	0.5
2010	1,430	80.4	76.7	84.1	1,347	80.0	77.9	82.3	0.4

Source: Office for National Statistics

Notes:

1. Published figures are based on data from the Office for National Statistics.
2. New partnership figures are based on data from Public Health England.

Table A9: 10-year, unsmoothed, age-standardised cancer survival estimates (%) with 95% confidence intervals for children (aged 0 to 14 years) diagnosed with cancer in England between 1990 and 2005 by year of diagnosis

Diagnosis Year	All ages – published				All ages – new partnership				Absolute % difference in survival
	No of patients	Standardised 10-year survival (%)	LCI	UCI	No of persons	Standardised 10-year survival (%)	LCI	UCI	
1990	1,132	63.7	58.7	68.8	995	63.7	60.6	66.9	0.0
1991	1,102	69.3	64.3	74.4	924	66.8	63.6	70.1	2.5
1992	1,132	69.4	64.5	74.2	962	67.3	64.3	70.5	2.1
1993	1,213	67.6	62.8	72.4	1,013	67.6	64.7	70.7	0.0
1994	1,249	71.3	66.8	75.8	1,052	68.6	65.8	71.6	2.7
1995	1,232	69.7	65.1	74.2	1,170	68.8	66.2	71.6	0.9
1996	1,216	71.1	66.5	75.8	1,143	71.6	68.9	74.4	0.5
1997	1,268	72.6	68.3	76.9	1,207	73.0	70.5	75.6	0.4
1998	1,261	72.8	68.4	77.2	1,197	73.1	70.5	75.7	0.3
1999	1,285	70.5	66.0	75.0	1,179	70.2	67.5	72.9	0.3
2000	1,217	76.5	72.2	80.7	1,140	76.3	73.8	78.9	0.2
2001	1,248	75.6	71.4	79.8	1,152	75.2	72.8	77.8	0.4
2002	1,352	75.5	71.4	79.7	1,258	74.9	72.5	77.4	0.6
2003	1,232	72.2	67.6	76.7	1,186	72.8	70.2	75.5	0.6
2004	1,297	77.9	73.9	81.9	1,222	78.0	75.7	80.4	0.1
2005	1,272	76.4	72.3	80.6	1,203	76.7	74.3	79.2	0.3

Source: Office for National Statistics

Notes:

1. Published figures are based on data from the Office for National Statistics.
2. New partnership figures are based on data from Public Health England.

Appendix 4: Definition of Cancers

Table A10: Codes in the International Classification of Diseases, tenth revision (ICD-10)

Cancer	ICD-10 code
Bladder	C67
Brain	C71
Breast	C50
Cervix	C53
Colon	C18
Colorectum	C18 to C20, C21.8
Hodgkin lymphoma	C81
Kidney	C64 to C66, C68
Larynx	C32
Leukaemia	C91 to C95
Liver	C22
Lung	C33 and C34
Melanoma of skin	C43
Mesothelioma	C45
Myeloma	C90
Non-Hodgkin lymphoma	C82 to C85
Oesophagus	C15
Ovary	C56 to C57.7
Pancreas	C25
Prostate	C61
Rectum	C19 to C20, C21.8
Stomach	C16
Testis	C62
Thyroid	C73
Uterus	C54 and C55

Sources: World Health Organization. International Classification of Diseases and Related Health Problems, Tenth Revision (ICD-10) and International Classification of Diseases for Oncology, Second Edition (ICD-O). Geneva: World Health Organization.