NDRS
NATIONAL DISEASE REGISTRATION SERVICE

NHS England

Endometrial Cancer Audit Pilot

Baseline Report: Incidence, mortality and survival
April 2025

About the NDRS

The National Disease Registration Service (NDRS) is part of NHS England. Its purpose is to collect, collate and analyse data on patients with cancer, congenital anomalies, and rare diseases. It provides robust surveillance to monitor and detect changes in health and disease in the population. NDRS is a vital resource that helps researchers, healthcare professionals and policy makers make decisions about NHS services and the treatments people receive.

The NDRS includes:

- the National Cancer Registration and Analysis Service (NCRAS) and
- the National Congenital Anomaly and Rare Disease Registration Service (NCARDRS)

Healthcare professionals, researchers and policy makers use data to better understand population health and disease. The data is provided by patients and collected by the NHS as part of their care and support. The NDRS uses the data to help:

- understand cancer, rare diseases, and congenital anomalies
- improve diagnosis
- plan NHS services
- improve treatment
- evaluate policy
- improve genetic counselling

This piece of work was done in partnership with the following organisations:

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1. Introduction

This is the baseline profile report for the Endometrial Cancer Audit Pilot (ECAP).

The ECAP is overseen by a Project Steering Group which comprises individuals from the National Disease Registration Service (NDRS), Health Data Insight (HDI), the British Gynaecological Cancer Society (BGCS), the British Association of Gynaecological Pathologists (BAGP) and representation from The Eve Appeal and Peaches Womb Cancer Trust. The project is funded by a collaboration of the BGCS and the charities.

Uterine cancer is the fourth most common cancer among females in the UK and the most common gynaecological cancer, with endometrial carcinoma being its most frequent type.[1] This report is the first of several that are planned as part of the ECAP project and focuses on developing an understanding of the profile of endometrial cancer in England. To do this, findings are shown from routinely collected cancer registration and linked mortality data (see Appendix 1 for full details of the data sources used).

Information is presented on the incidence of endometrial cancer, along with mortality and survival following a diagnosis of endometrial cancer, among women in England who were diagnosed between 2017 and 2019 (inclusive). This time period covers diagnoses up to the period that immediately preceded the Covid-19 pandemic and provides sufficient follow-up for the estimation of survival at 1, 3 and 5-years after diagnosis.

Publicly funded national cancer audit programmes exist in England for a large number of cancer types, including ovarian, lung, bowel, prostate, breast, kidney, lymphoma, pancreatic and oesophago-gastric cancers. These national audits monitor standards of care and explore inequalities of treatment and outcomes throughout the country, driving improvements to the management of these diseases and the health outcomes of patients. Endometrial cancer is not yet included in the national cancer audit programme, challenging the gynaecological cancer community and charities to establish a pilot with the aim of determining the extent to which a national endometrial cancer audit could be established using routinely collected data.

This work uses data that has been provided by patients and collected by the NHS as part of their care and support. The data are collated, maintained and quality assured by the National Disease Registration Service, which is part of NHS England.

[1] Morrison, J., Balega, J., Buckley, L., Clamp, A., Crosbie, E., et al. (2022). British Gynaecological Cancer Society (BGCS) uterine cancer guidelines: Recommendations for practice. European journal of obstetrics, gynecology, and reproductive biology, 270, 50–89. https://doi.org/10.1016/j.ejogrb.2021.11.423

2. Incidence of endometrial cancer, since 2001

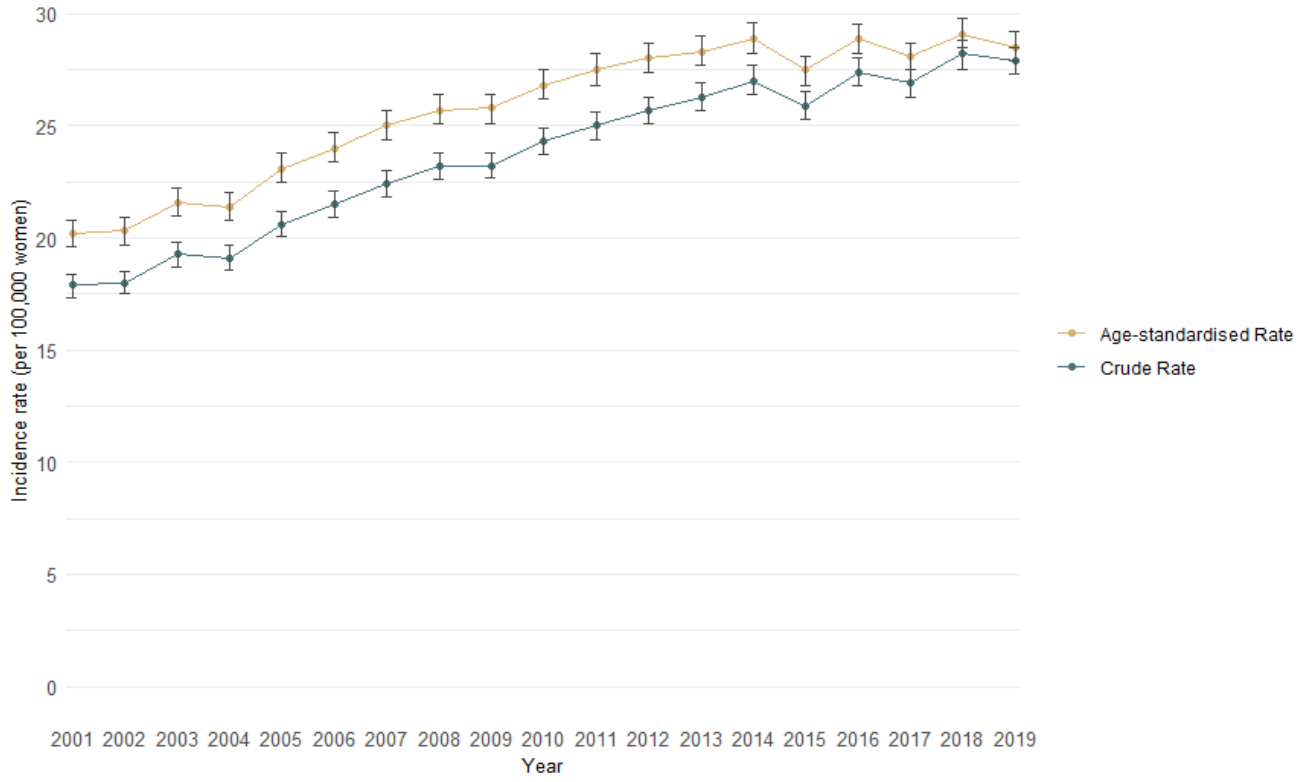
To put more recent trends in context, we present here incidence rates over the preceding two decades, from 2001 to 2019.

During this period, the crude incidence rate of endometrial cancer in England has increased from 17.9 cases per 100,000 women in 2001 to 27.9 cases per 100,000 women in 2019 (Figure 1). Similarly, the age-standardised incidence rate increased from 20.2 cases per 100,000 women in 2001 to 28.5 cases per 100,000 women in 2019.

Obesity is a major risk factor for endometrial cancer, and the steady rise in endometrial cancer incidence rates over the past two decades mirrors the trend seen in increasing obesity rates in England.2

The remainder of this report focuses on women diagnosed with endometrial cancer in the years 2017, 2018 and 2019.

Figure 1: Endometrial cancer incidence rates in England, 2001-2019 (Source: CASAV 2021)



[2] UKHSA, 2021 https://ukhsa.blog.gov.uk/2021/03/04/patterns-and-trends-in-excess-weight-among-adults-in-england/

3. Defining the cohort

The cohort of women studied for this report were selected according to the criteria below.

Inclusion criteria:

1. Confirmed diagnosis of endometrial cancer, defined based on ICD-10 (International Classification of Diseases, Tenth Revision) codes C54/C55 and morphology codes:
    - C54.1;
    - Any of C54.0, C54.3, C54.8 or C54.9, with an epithelial, carcinosarcoma or mullerian mixed tumour morphology (identified by morphology codes[3] 8010-8012, 8014-8035, 8041-8046, 8050-8148, 8160-8231, 8250-8530, 8541, 8550-8576, 8959, 8982, 9110, 8013, 8154, 8246, 8980, 8981 or 8950);
    - C55 with a carcinosarcoma or mullerian mixed tumour morphology (identified by morphology codes 8980, 8981 or 8950).
2. Diagnosis date between 1st January 2017 and 31st December 2019;
3. Resident in England at the time of diagnosis (based on recorded Lower layer Super Output Area; LSOA);
4. Gender self-reported as “Female”;
5. Aged 18 years or over on the date of endometrial cancer diagnosis.

Exclusion criteria:

6. Cancer registration record which included a morphology code indicating uterine cancer, specifically records for adenosarcoma, endometrial stromal sarcoma, leiomyosarcoma, undifferentiated sarcoma or miscellaneous sarcoma;
7. Gender self-reported not as “Female”, i.e., where the sex-specific diagnosis code does not match the person-stated gender. This may have excluded some people who were transgender or non-binary.

See Appendix 1 for information on which patients are included in each analysis.

[3] Classified according to the International Classification of Diseases for Oncology, 3rd Edition, first revision

4. Incidence of endometrial cancer, from 2017 to 2019

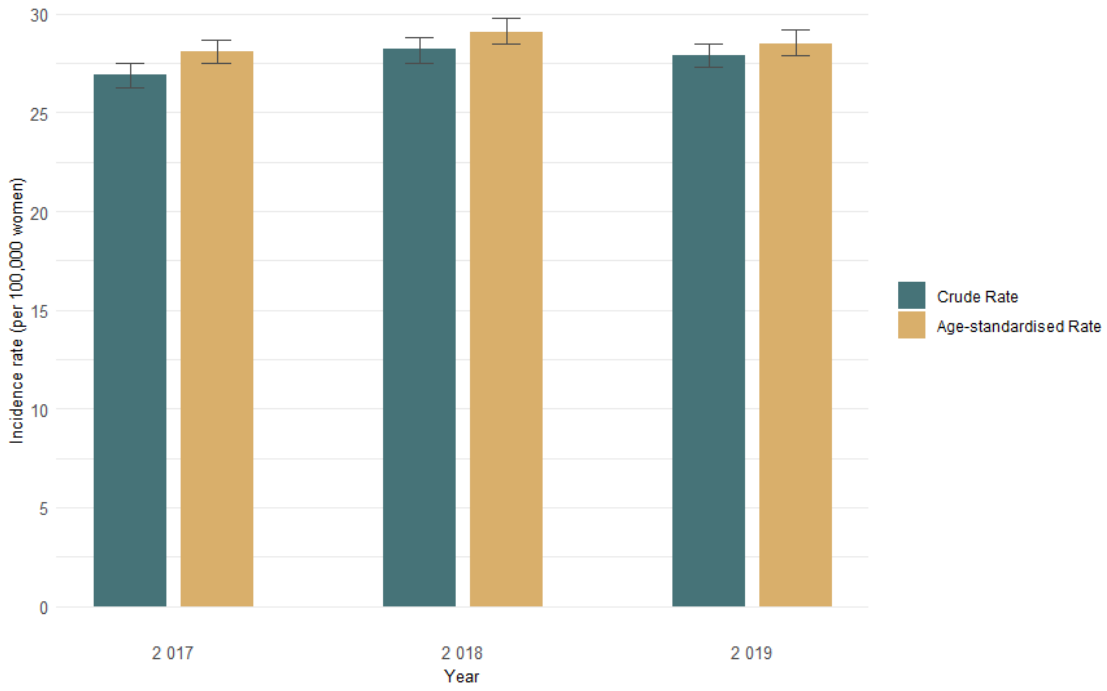
There were 7,828 women diagnosed with endometrial cancer per year on average in England between 2017 and 2019 (23,484 women over the 3-year period).
The overall crude incidence rate for the 3-year period was 27.7 cases per 100,000 women, whilst the overall age-standardised rate was 28.6 cases per 100,000 women.

Crude and age-standardised incidence rates by year

Age-standardised rates are used to compare rates between different populations while accounting for differences in age distribution. This ensures that any differences observed are not due to the populations having different age structures.

The crude and age-standardised incidence rates (ASRs) were relatively comparable across the 3-year diagnosis period looked at in this report (Figure 2).

Figure 2 : Endometrial cancer crude and age-standardised incidence rates (per 100,000 women) in England, 2017-2019 (Source: CASAV 2021)



The incidence rates and 95% confidence intervals presented in Figure 2 are detailed in the table below.

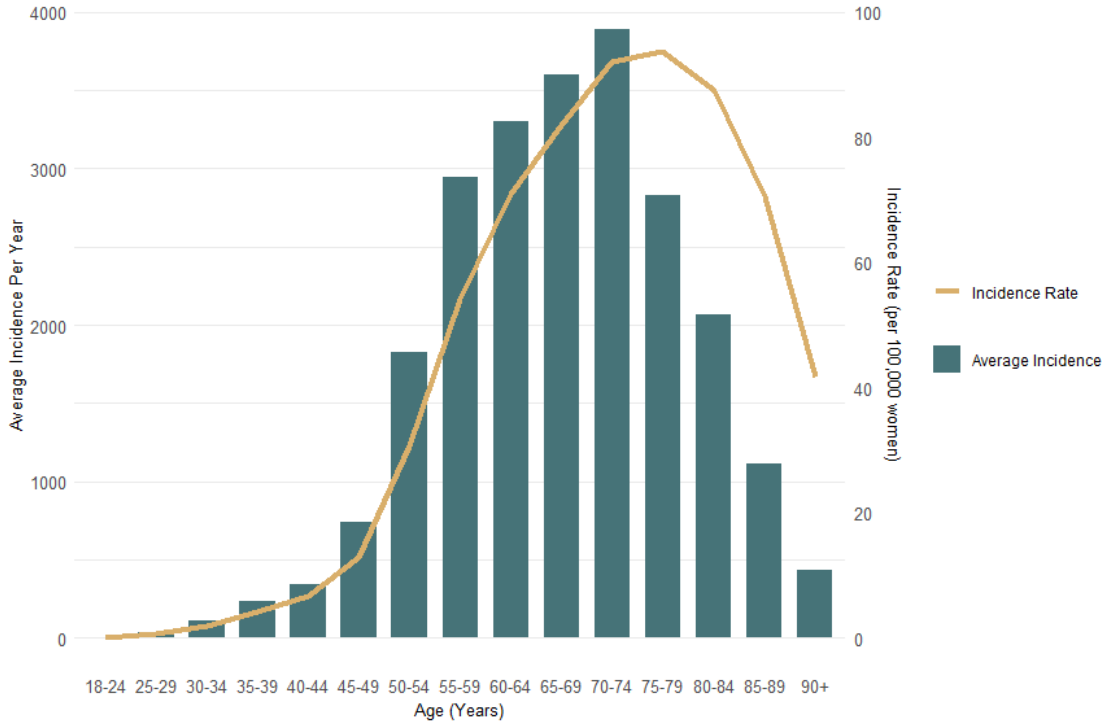
Table 1 : Endometrial cancer incidence and crude and age-standardised incidence rates (per 100,000 women) in England, 2017-2019

Year of diagnosis	Incidence	Crude Rate (95% CI)	ASR (95% CI)
2017	7,579	26.9 (26.3-27.5)	28.1 (27.5-28.7)
2018	7,972	28.2 (27.5-28.8)	29.1 (28.5-29.8)
2019	7,933	27.9 (27.3-28.5)	28.5 (27.9-29.2)
Key: CI = Confidence interval. ASR = Age-standardised incidence rate.			

Age-specific incidence

The incidence of endometrial cancer increased with age, with the largest number of cases recorded amongst women aged 70-74 years and the highest age-specific incidence rate in the 75-79 year age cohort (Figure 3).

Figure 3 : Endometrial Cancer, average annual incidence and age-specific incidence rates (per 100,000 women) in England, 2017-2019



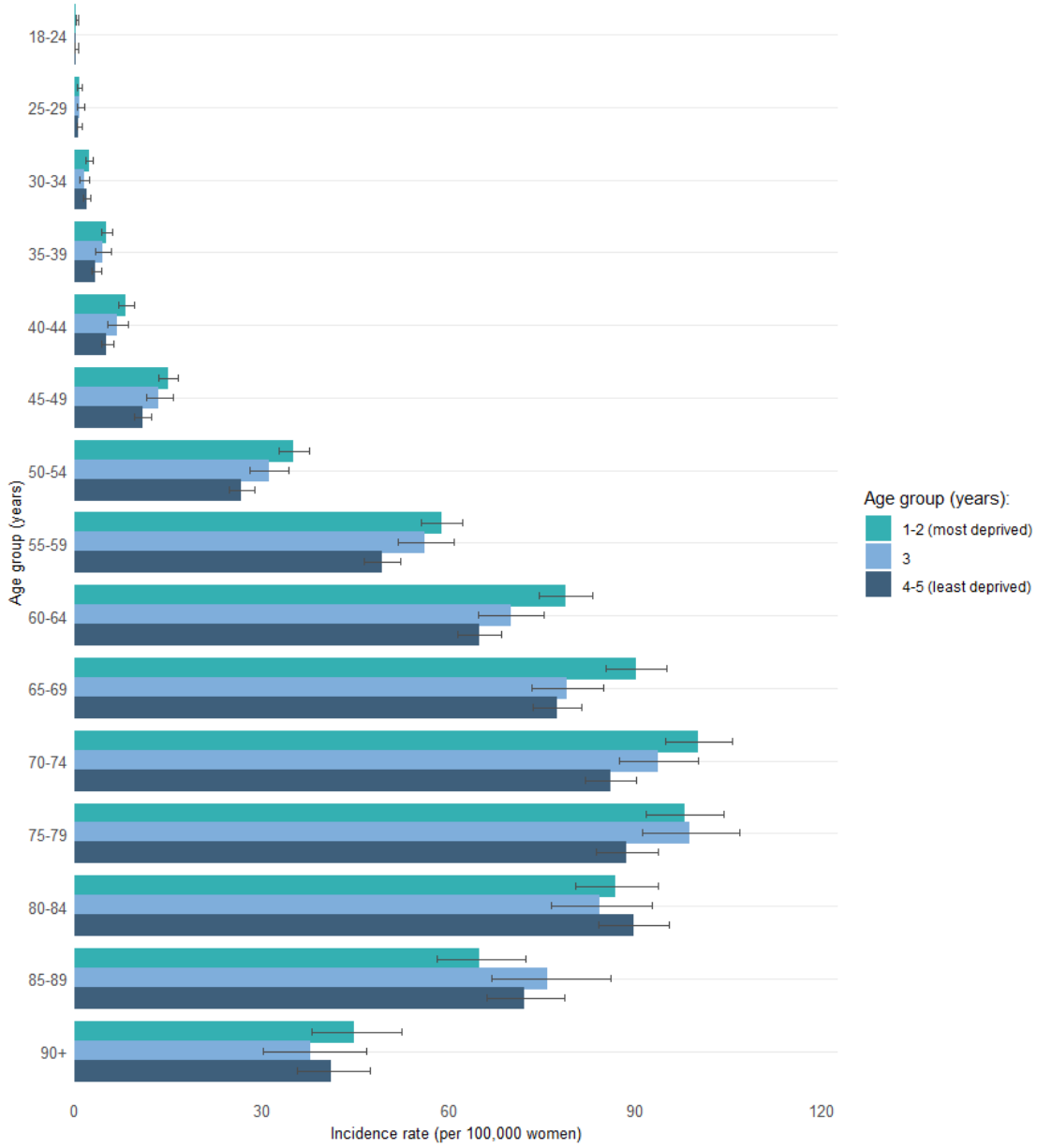
The age-specific incidence rates (and 95% confidence intervals) along with the incidence for each age group, are provided in the accompanying Excel workbook.

Age-specific incidence rates by Index of Multiple Deprivation (IMD 2019)

Within the figure below Index of Multiple Deprivation (IMD) quintiles are combined (1 and 2, 4 and 5) to more clearly present differences by age.

There was variation in age-specific incidence by IMD, with higher rates among women in the two most deprived quintiles (IMD 1 and 2) relative to those in the least deprived (IMD 4 and 5), except for very elderly age cohorts over 85 years of age (Figure 4).

Figure 4 : Endometrial Cancer, age-specific incidence rates by IMD (per 100,000 women) in England, 2017-2019



Incidence rates by geographical region

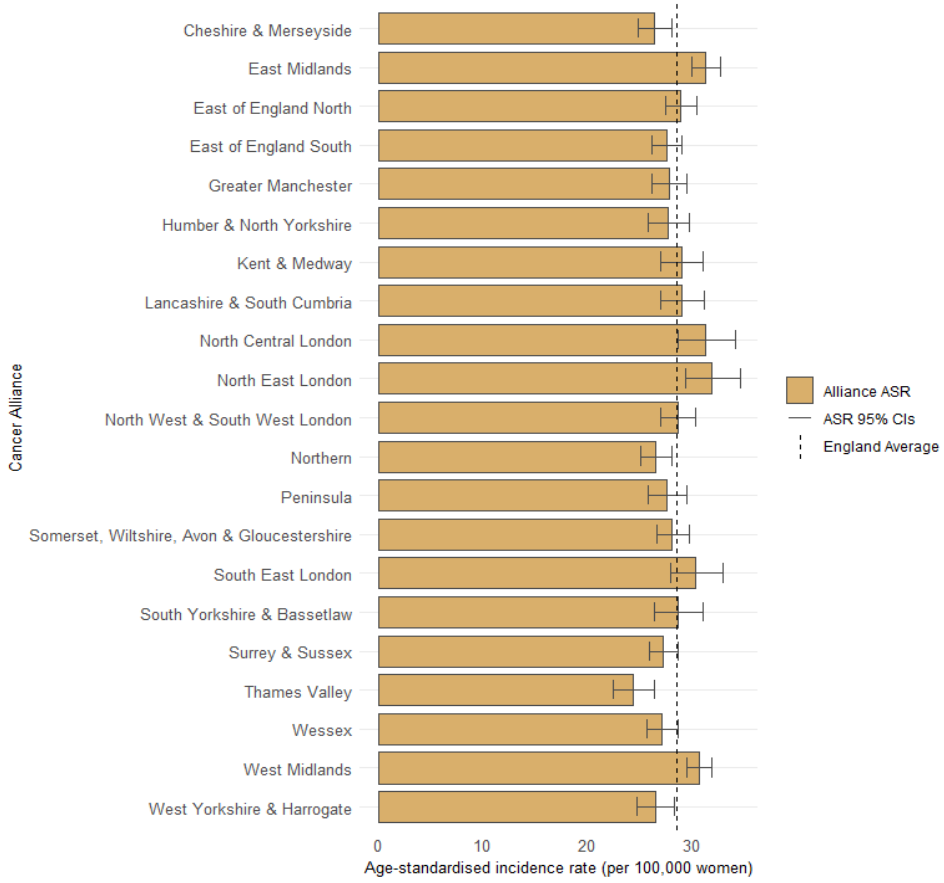
ASRs are particularly useful when comparing geographical regions. They allow comparisons between areas after accounting for differences in the age profiles of their respective general populations. However, it should be borne in mind that there may be variation in other factors which could impact cancer incidence rates, such as the incidence and severity of obesity, which is more prevalent in areas with a higher percentage of people in lower socioeconomic cohorts.[4]

The ASRs and 95% confidence intervals are provided in the accompanying Excel workbook for each Cancer Alliance and Integrated Care Board (ICB) both overall and by year of diagnosis. See Appendix 3 for more information on when the boundaries for each geographical grouping were defined.

Cancer Alliance

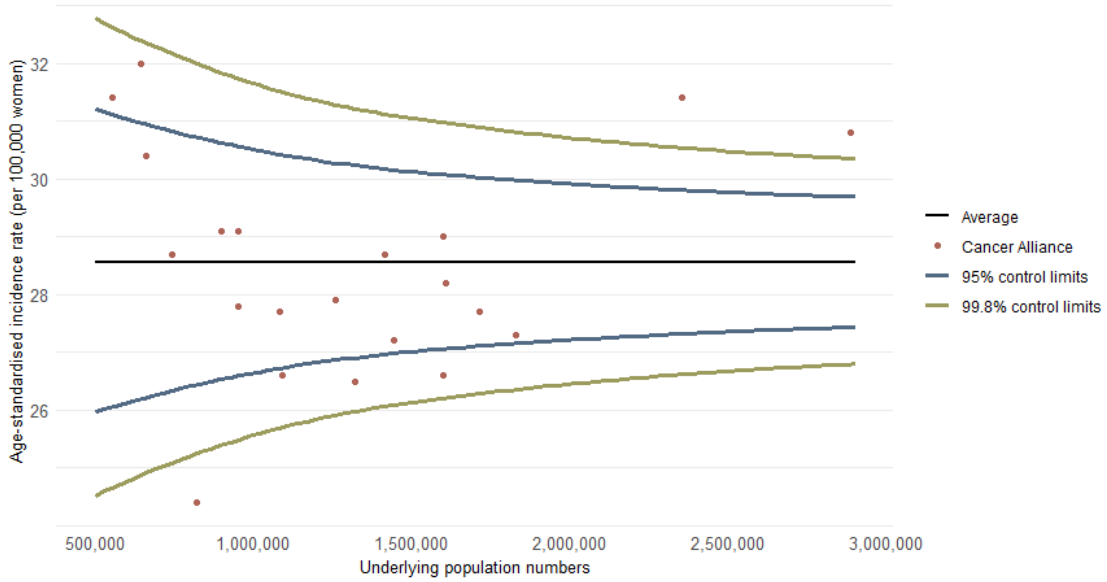
ASRs in the 21 Cancer Alliances ranged from 20.8 to 33.3 cases per 100,000 women (Figures 5 & 6).

Figure 5 : Endometrial cancer age-standardised incidence rates (per 100,000 women) across England, 2017-2019



[4] NICE health inequalities briefing: obesity and weight management (draft for consultation) February 2023. Available from https://www.nice.org.uk/guidance/cg189/documents/health-inequalities-briefing-2.

Figure 6 : Endometrial cancer age-standardised incidence rates (per 100,000 women) by Cancer Alliance, 2017-2019



The funnel plot (Figure 6) shows the variation in incidence rates across Cancer Alliances in relation to the size of the underlying population of women. Each point on the plot represents a geographical area (in this case, Cancer Alliance). The population of each Cancer Alliance is presented on the horizontal axis, and the ASR of endometrial cancer is shown on the vertical axis. The average incidence rate of endometrial cancer across England is shown on the plot by the horizontal black line.

Some random variation in rates between areas is expected, but the estimate of the incidence rate is likely to be more precise for a larger area than for a smaller one. The precision level is represented by the curved 'funnel' lines, which show 95% control limits (2 standard deviations; SD[5]) and 99.8% control limits (3SD[6]). Points that lie outside of these 'funnel' lines indicate that such variation may not be explained solely by randomness but may be due to real differences in incidence between areas.

Between 2017 and 2019 there were two Cancer Alliances with ASRs which were more than 3SD above the national average, and one Cancer Alliance with an ASR more than 3SD below the national average (Figure 6).

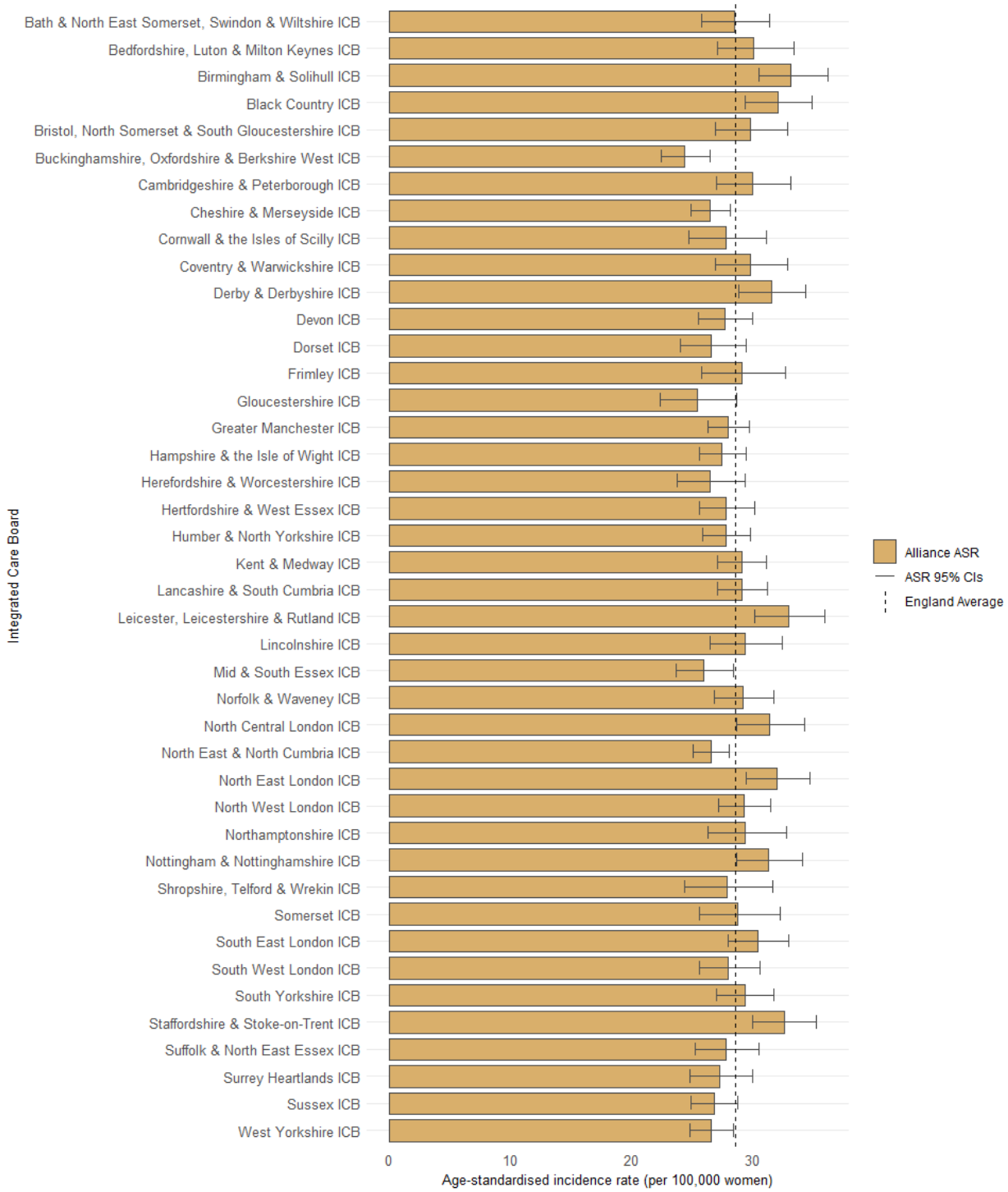
[5] A standard deviation is a way to measure how spread out various plotted points are from the average. If the standard deviation is small, most points are located close to the average. If it's large, the points are more spread out.

[6] When we talk about 3SD, we mean a range that includes almost all the data—about 99.8% of it. If something is located more than 3SD away from the average, it is considered very unusual or rare.

Integrated Care Board (ICB)

ASRs in the 42 Integrated Care Boards (ICBs) ranged from 20.8 to 34.9 cases per 100,000 women (Figures 7 & 8).

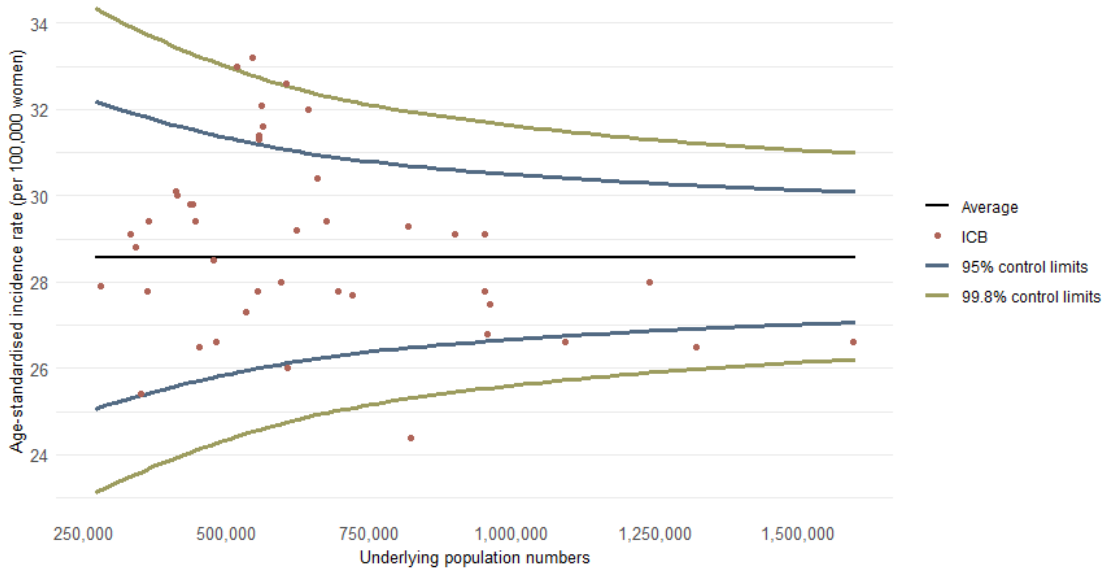
Figure 7 : Endometrial cancer age-standardised incidence rates (per 100,000 women) across England, 2017-2019



The funnel plot below (Figure 8) shows the variation in incidence rates across ICBs in relation to the size of the underlying population of women. Each point represents an individual ICB, the underlying population numbers are presented on the horizontal axis, and the ASR is shown on the vertical axis. With more geographical units than for the breakdown by Cancer Alliance we see that the underlying population sizes were smaller and that there was wide variation between ICBs.

There were two ICBs which had ASRs which were more than 3SD above the national average, and one ICB with an ASR more than 3SD below the national average.

Figure 8 : Endometrial Cancer age-standardised incidence rates (per 100,000 women) by Integrated Care Board (ICB), 2017-2019



Distribution of endometrial cancer across patient subgroups

Moving beyond breakdowns of cancer incidence, the following sub-sections look at the distribution of patient and tumour characteristics by age at diagnosis among women diagnosed with endometrial cancer from 2017 to 2019.

Index of Multiple Deprivation (IMD 2019)

The distribution of IMD quintiles among women diagnosed with endometrial cancer varied by age group at diagnosis (Figure 9).

Within the figures IMD quintiles are combined (1 and 2, 4 and 5) to more clearly present differences by age and for comparison with this distribution in the general female population in England, for the years 2017 to 2019.

The percentages of women in the least deprived quintiles (4 and 5) were greatest among women in older age groups, broadly reflecting the distribution seen in the general female population in England (Figure 10). The difference in age-specific incidence rates by IMD is more clearly presented in Figure 4.

Figure 9 : Distribution of IMD quintile among women diagnosed with endometrial cancer, from 2017-2019, by age at diagnosis

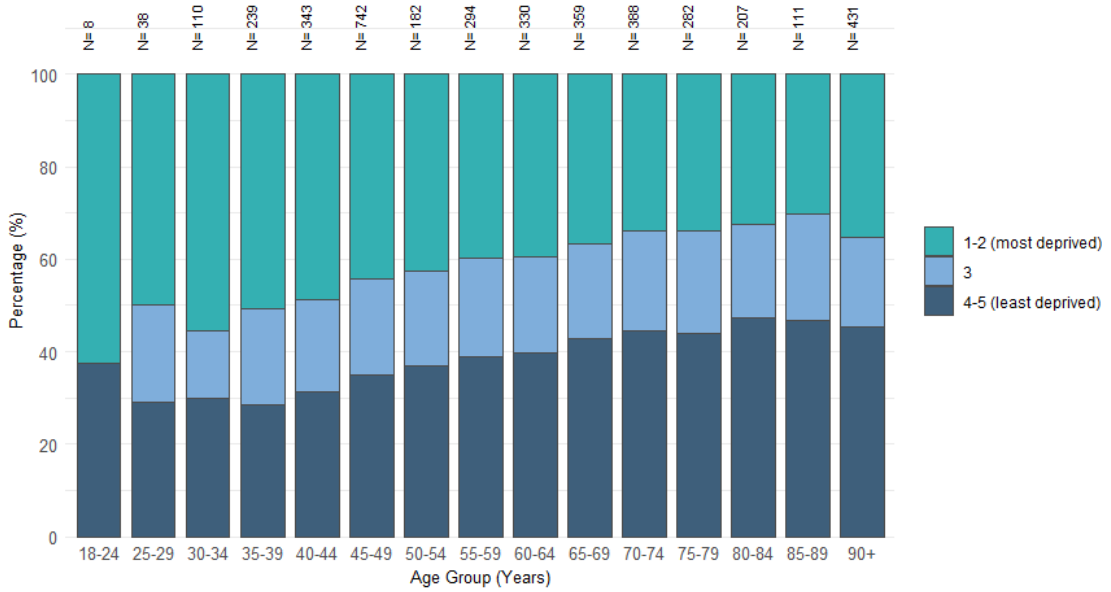
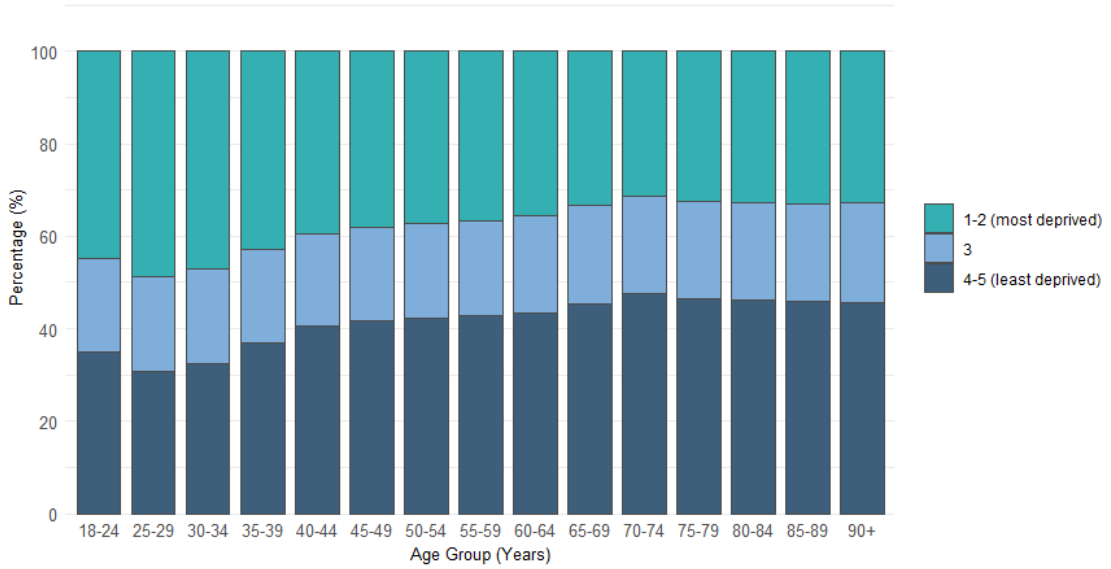


Figure 10 : Distribution of IMD quintile among women in England, from 2017-2019, by age



Ethnic group

The distribution of ethnic groups among women diagnosed with endometrial cancer varied by age at diagnosis (Figure 11). The percentages of women with ethnic group recorded as White were highest among women in the older age groups, broadly reflecting the distribution of ethnic groups seen in the general female population in England as reported in the 2021 census[7] and presented in Figure 12.

The prevalence of endometrial cancer appears disproportionately high among younger women with ethnic group recorded as Asian or Black, relative to their representation in the general population.

Figure 11 : Distribution of ethnic group among women diagnosed with endometrial cancer, from 2017-2019, by age at diagnosis

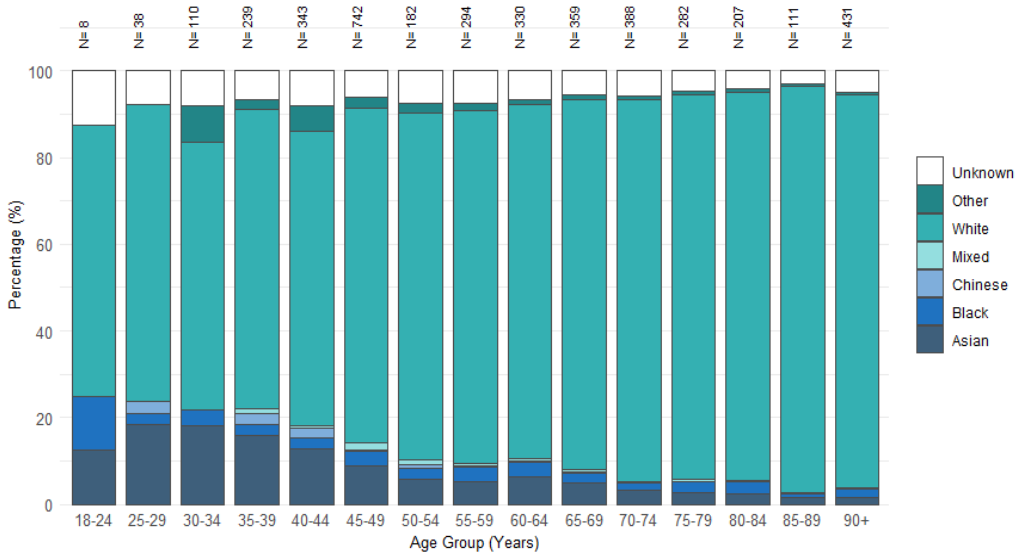
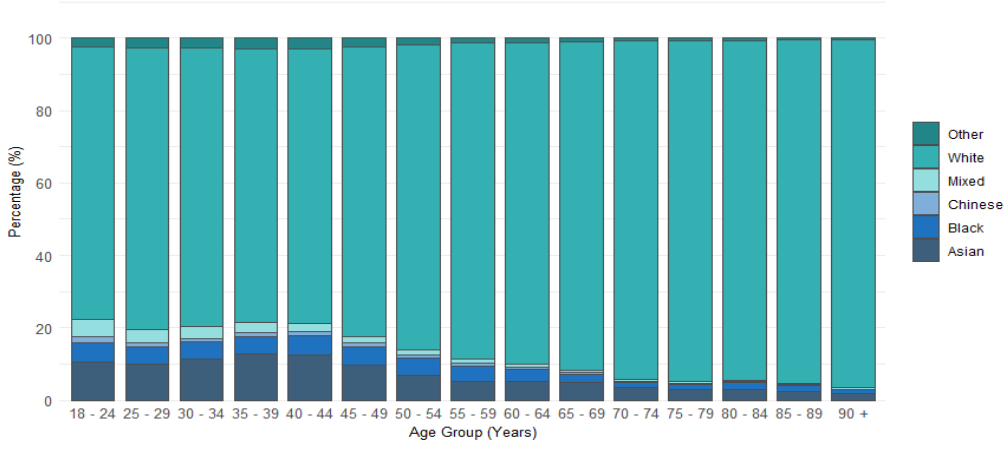


Figure 12 : Distribution of ethnic group among all women in England, by age (Source: 2021 census)



[7] https://www.ons.gov.uk/peoplepopulationandcommunity/culturalidentity/ethnicity/datasets/ethnicgroupbyageandsexinenglandandwales

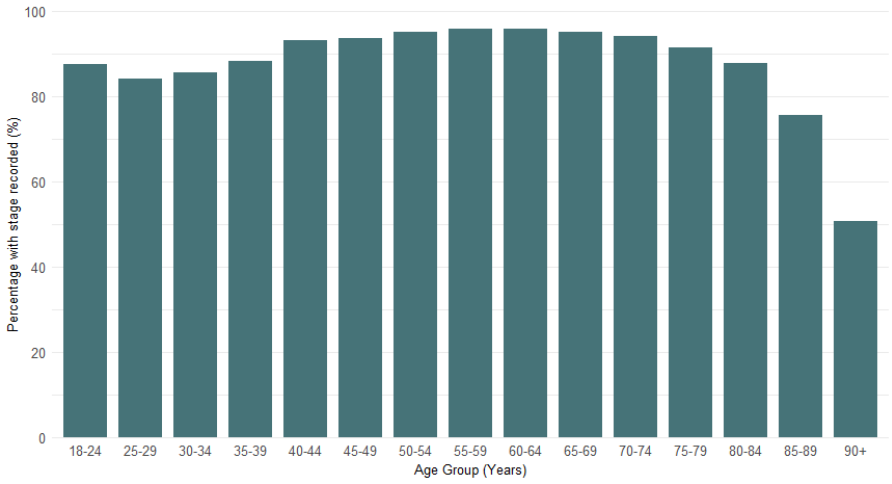
Stage at diagnosis

Appendix 4 provides full information on how cancer stage was defined.

The availability of information on stage in the cancer registration dataset varied by age at diagnosis (Figure 13). Overall, stage was recorded for 92.1% of women diagnosed with endometrial cancer from 2017 to 2019. Completeness was lowest among women in the older age groups, with stage recorded for 75.5% of women aged 85-89 years and for 50.6% of women aged 90+ years.

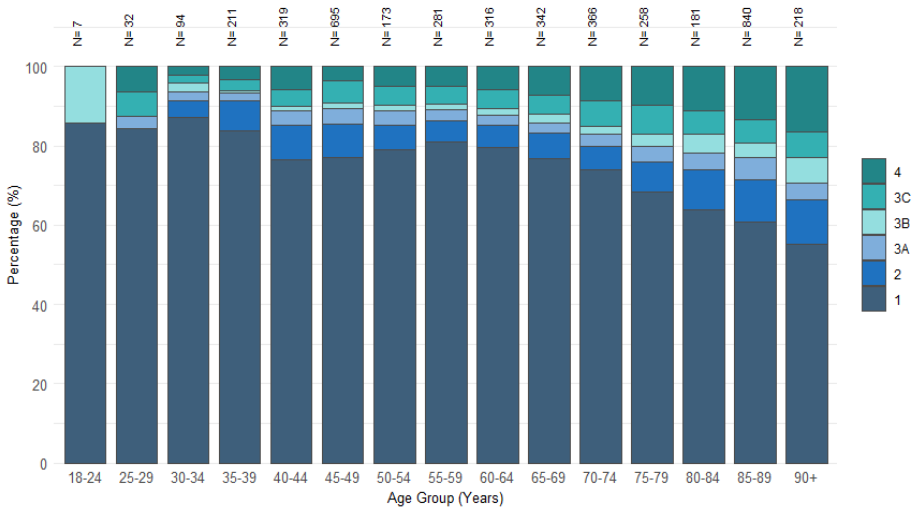
Among women with a documented stage, the distribution of stage varied by age at diagnosis (Figure 14). Although most women were diagnosed with stage 1 endometrial cancer, the percentage of women with stage 1 disease was lower in older age groups. The percentage of women diagnosed with stage 4 endometrial cancer increased with age, being 16.5% among women aged 90+ years, compared with 3.3% among women aged 35-39 years.

Figure 13 : Availability of information on stage at diagnosis among women diagnosed with endometrial cancer from 2017 to 2019, by age at diagnosis



Cases with late presentation of advanced disease with poor performance status may also have missing stage because the individual was too unwell to undergo staging procedures and subsequent treatment. This factor likely explains the increased rate of missing stage data in elderly disease cohorts.

Figure 14 : Distribution of stage among women diagnosed with endometrial cancer from 2017 to 2019 who had stage recorded, by age at diagnosis

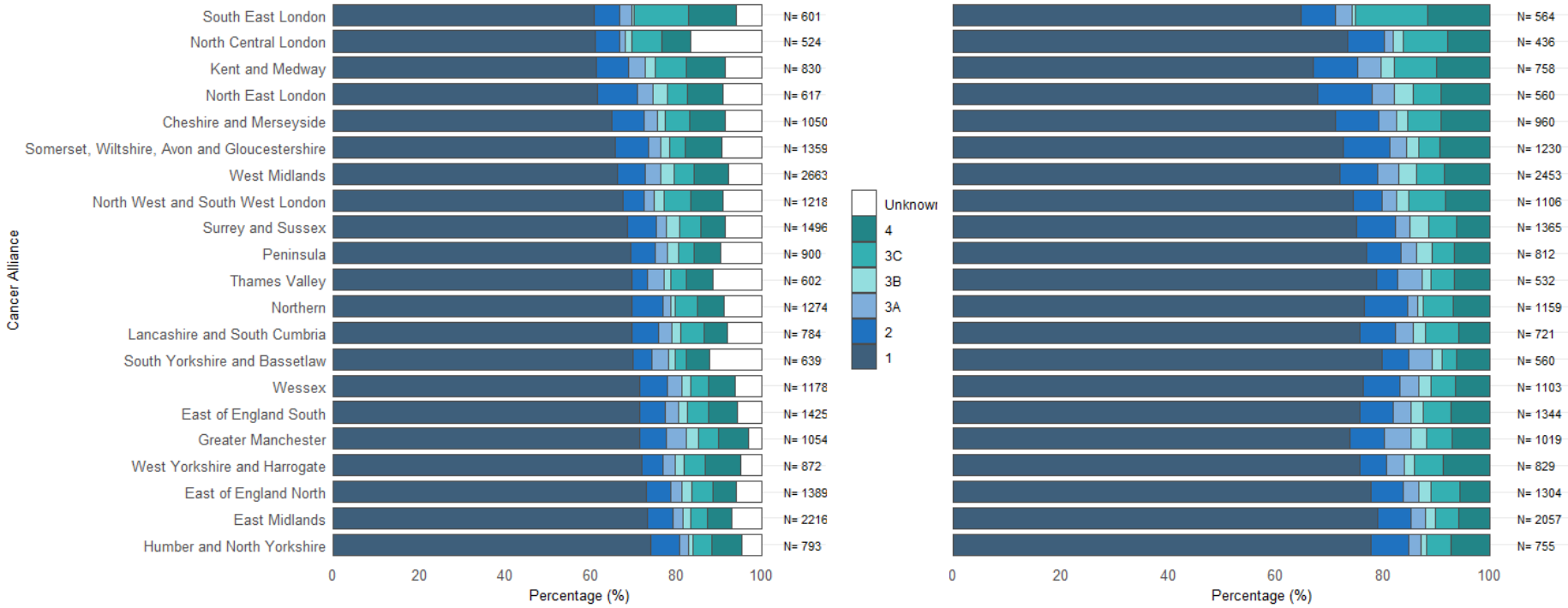


Geographic variation in stage

Both the completeness and distribution of cancer stage differed between Cancer Alliances. Completeness ranged from 83.2% to 96.7%.

Figure 15 : Distribution of stage among women diagnosed with endometrial cancer, from 2017-2019, by Cancer Alliance

Figure 16 : Distribution of stage among women diagnosed with endometrial cancer who had stage information recorded, from 2017-2019, by Cancer Alliance



Both the completeness and distribution of cancer stage differed between ICBs. Completeness ranged from 80.5% to 96.6% of diagnoses, with an absence of recorded stage data potentially reflecting local issues with data capture and processing, particularly where there were marked differences in completeness between geographies.

Observed differences in the distribution of recorded stage may in turn reflect differences in referral and diagnostic pathways across regions in England, with a higher percentage of women diagnosed with more advanced disease in some regions. It is also likely to reflect variations in treatment pathways which will be explored in subsequent ECAP analyses. For example, gynaecological cancer centres which routinely perform lymphadenectomy procedures may have higher rates of FIGO Stage 3C disease than those which do not routinely practice staging lymphadenectomy where occult nodal metastases may be missed.

Figure 17 : Distribution of stage among women diagnosed with endometrial cancer, from 2017-2019, by Integrated Care Board

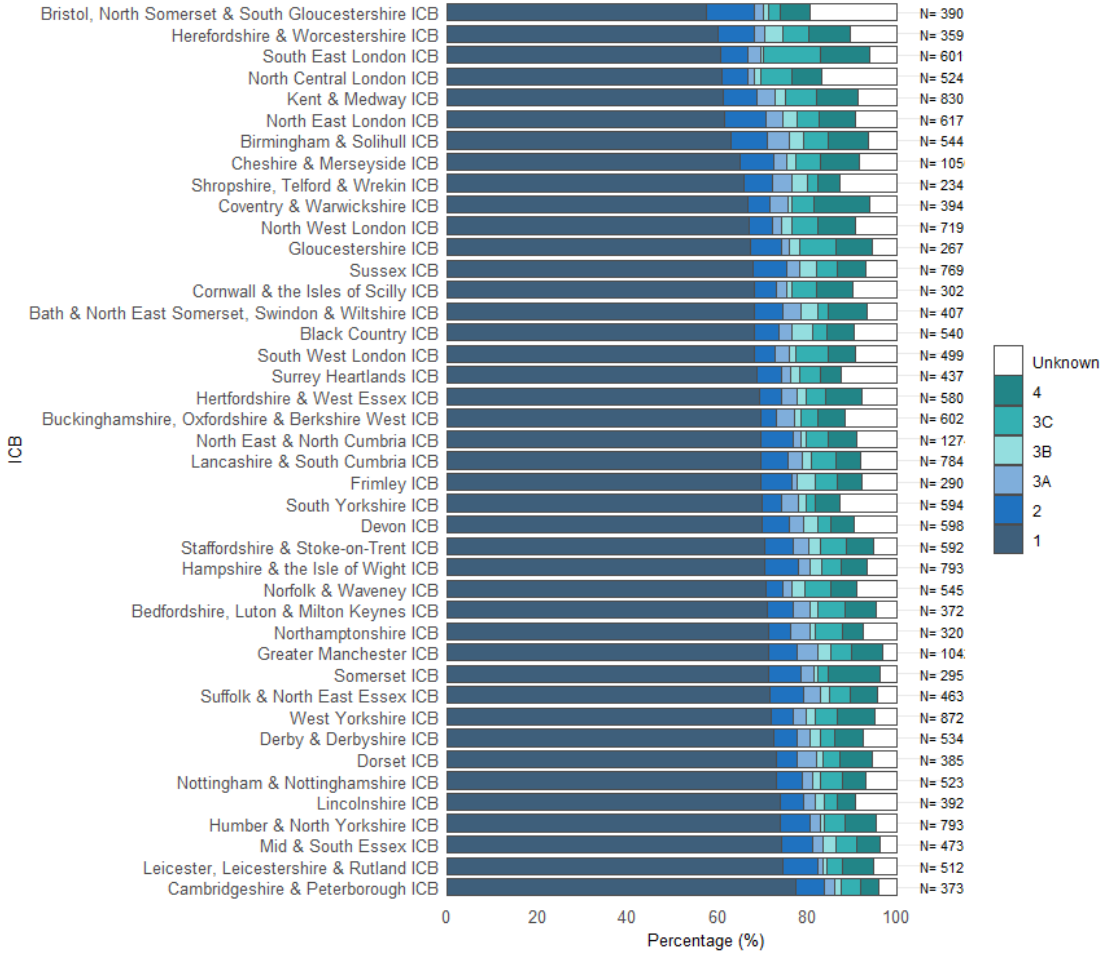
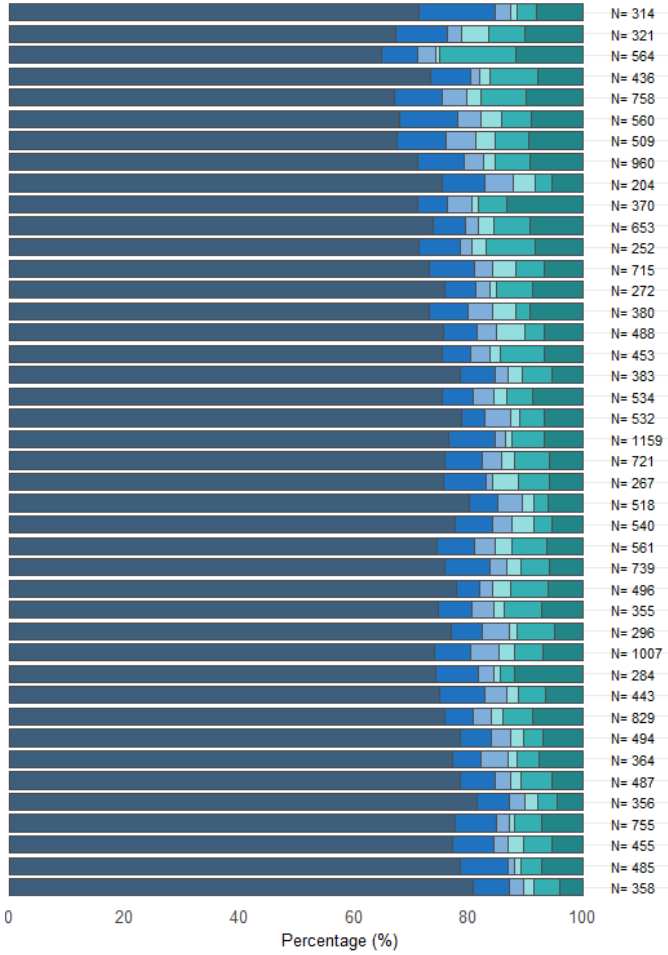


Figure 18 : Distribution of stage among women diagnosed with endometrial cancer who had stage information recorded, from 2017-2019, by Integrated Care Board



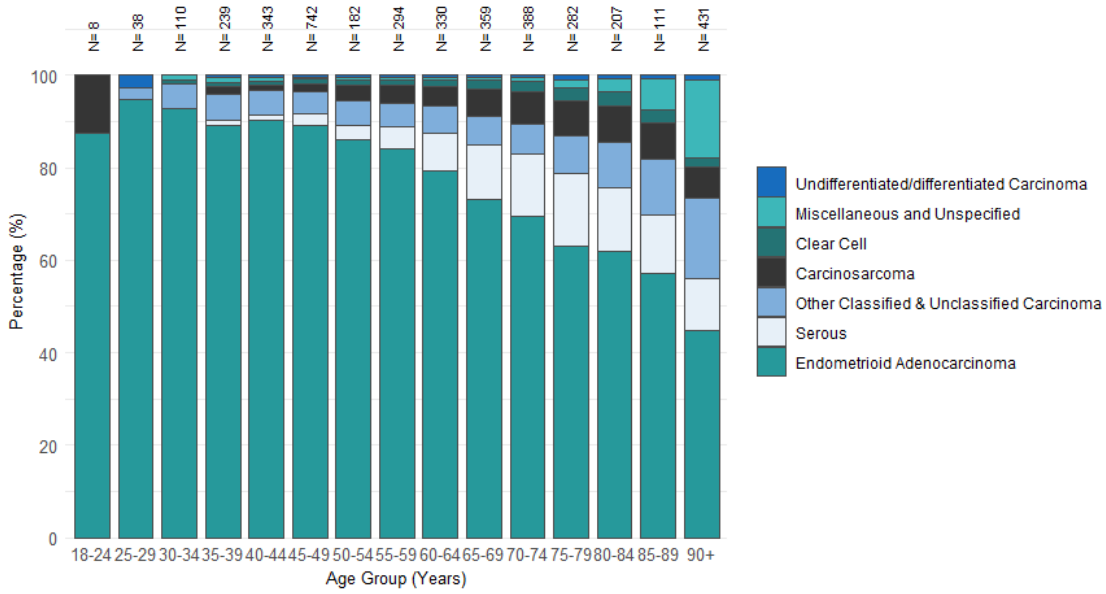
Tumour morphology

Appendix 5 describes how each tumour morphology was defined.

The distribution of morphologies varied by age group at diagnosis (Figure 19). The most common morphology overall was endometrioid adenocarcinoma, but was less common in older age groups, falling from 87.5 % of cases among women aged 18-24 years at diagnosis to 44.8% among women aged 90+ years.

High-risk tumour types such as clear cell carcinoma, serous carcinoma and carcinosarcoma were more common in elderly cohorts. Patients diagnosed with these morphologies generally have a poorer prognosis than those with the more common endometroid carcinomas which have an increasing incidence in association with the obesity epidemic.

Figure 19 : Distribution of morphology groups among women diagnosed with endometrial cancer, from 2017-2019, by age at diagnosis

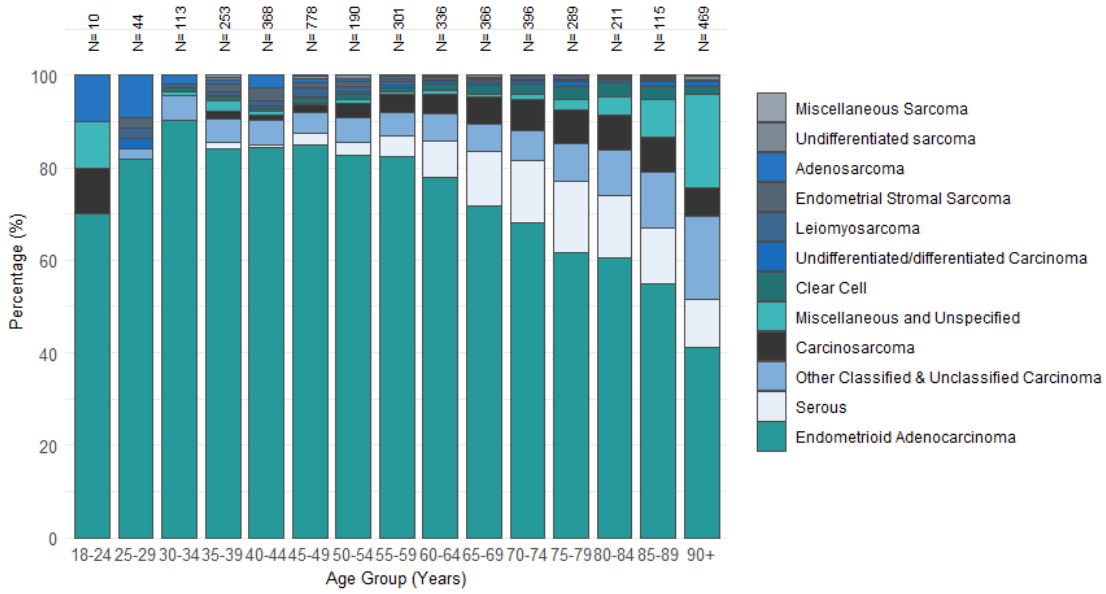


Tumour morphology among uterine cancers

Separately, the distribution of morphologies is presented for uterine cancers, comprising 24,108 women who had a cancer registration which included any of the ICD-10 codes C54.0, C54.1, C54.3, C54.8, C54.9 or C55 in the years 2017, 2018 and 2019 (Figure 20).

The distribution of morphologies among this wider group of women diagnosed with uterine malignancy is presented to show the full distribution of morphologies and highlight the numbers with morphologies which were not included in the audit cohort.

Figure 20 : Distribution of morphology groups among women diagnosed with uterine malignancy[8], by age at diagnosis



[8] based on recording of ICD-10 codes C54.0, C54.1, C54.3, C54.8, C54.9 or C55

5. Mortality from endometrial cancer in England, from 2017 to 2019

To get a sense of the annual number of deaths attributable to endometrial cancer in England we first looked at how many people died from endometrial cancer each year in the calendar years 2017, 2018 and 2019.

Among the general population in England from 2017 to 2019, a total of 6,085 women were recorded as having died from endometrial cancer (identified where ICD-10 codes C54.1 or C55 were recorded as the underlying cause of death on the death certificate). This was an average of 2,028 deaths from endometrial cancer in England each year.

Note that a different definition of endometrial cancer was used as death certificates do not include morphology information; cause of death is recorded based on ICD-10 codes alone.

6. Mortality following a diagnosis of endometrial cancer

See Appendix 2, subsection “Defining endometrial cancer for the mortality analysis”, for information on which patients were included in this section.

In this section mortality statistics are presented specifically for the 23,484 women with who were diagnosed with endometrial cancer in 2017, 2018 and 2019. Mortality information was available up to the end of August 2024. Given the two extra years of follow-up time among women diagnosed in 2017, it is expected that these women would experience a higher number of age-related deaths relative to those diagnosed later, such as in 2019.

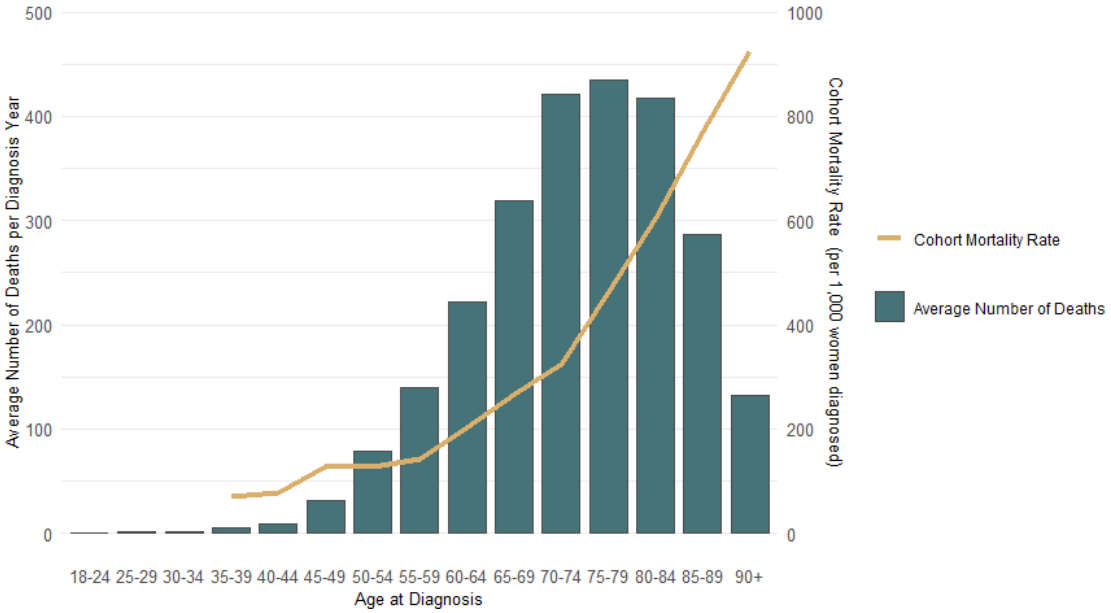
Among the 23,484 women diagnosed with endometrial cancer from 2017 to 2019, with follow-up to August 2024, 31.9% (n=7,499) had a record of having died at any point following their endometrial cancer diagnosis. Of those who died, 63.7% (n=4,780) had endometrial cancer (C54.1 or C55) recorded as the underlying cause of death on their death certificate.
In the subsequent subsections, cohort mortality rates are presented. These are calculated as the number of people diagnosed with endometrial cancer who subsequently died, divided by the number of people included in the cohort. This approach has been used to allow comparisons of mortality across cohort sub-groups, without needing to account for the incidence rate. Conversely population mortality rates would require the context of incidence rate for interpretation as a high population mortality rate may be due to a high incidence rate.

Age-specific cohort mortality rates

Among the cohort of women diagnosed with endometrial cancer from 2017 to 2019, the average number of deaths per diagnosis year was highest among women aged 70-74 years, 75-79 years and 80-84 years at diagnosis, whilst mortality rates increased with age and were highest for women aged 90+ years at diagnosis (923.4 per 1,000 women diagnosed).

The number of deaths among women diagnosed with endometrial cancer from 2017 to 2019 and the corresponding pattern of cohort mortality rates by age at diagnosis are shown in the figure below.

Figure 21 : Average number of deaths and age-specific cohort mortality rates (per 1,000 women diagnosed with endometrial cancer in England from 2017 to 2019)



The age-specific cohort mortality rates and 95% confidence intervals along with the number of deaths are provided in the accompanying Excel workbook for each age group both overall and by year of diagnosis.

Cohort mortality rates by geographical region

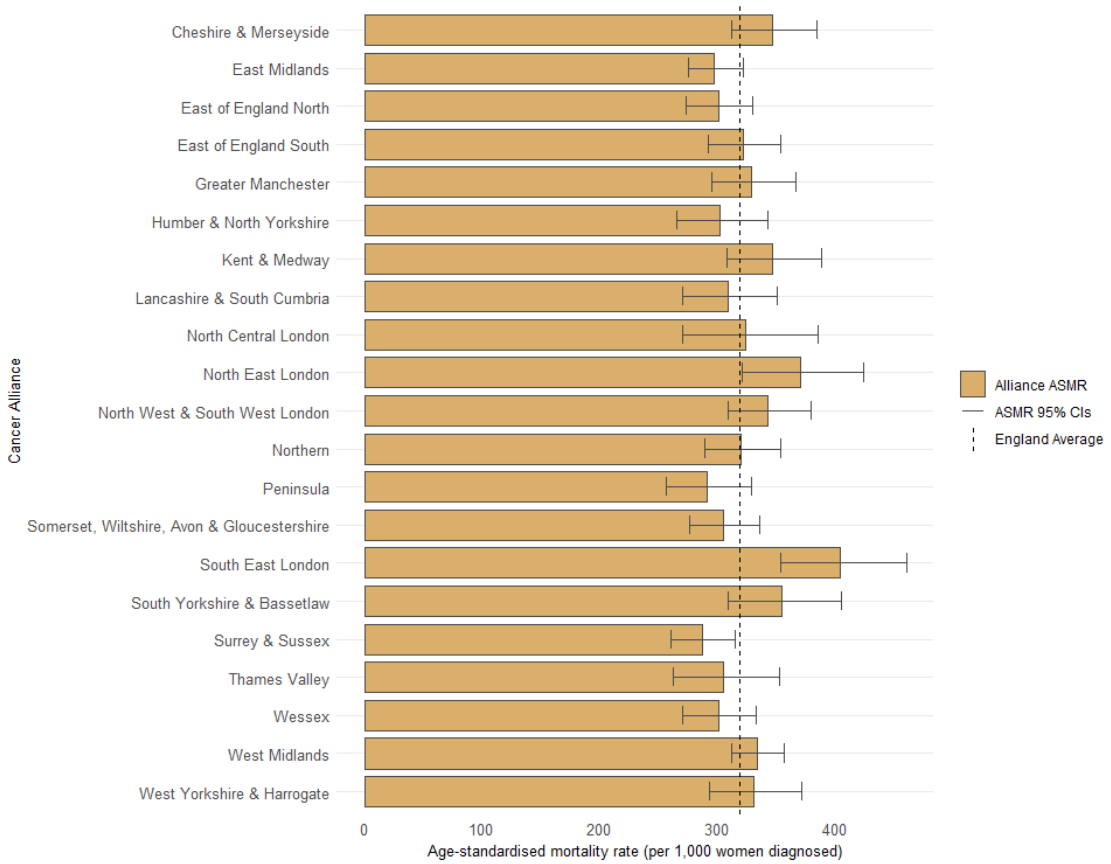
Age-standardised cohort mortality rates (ASMRs) were calculated to allow for comparison across geographical regions, as age is a leading risk factor for mortality and the age profile of women diagnosed with endometrial cancer was likely to vary geographically.

In this report ASMRs are presented per 1,000 women diagnosed with endometrial cancer in 2017, 2018 and 2019.

Cancer Alliance

ASMRs across the 21 Cancer Alliances ranged from 286.6 to 404.1 deaths per 1,000 women diagnosed with endometrial cancer from 2017 to 2019 (Figures 22 & 23).

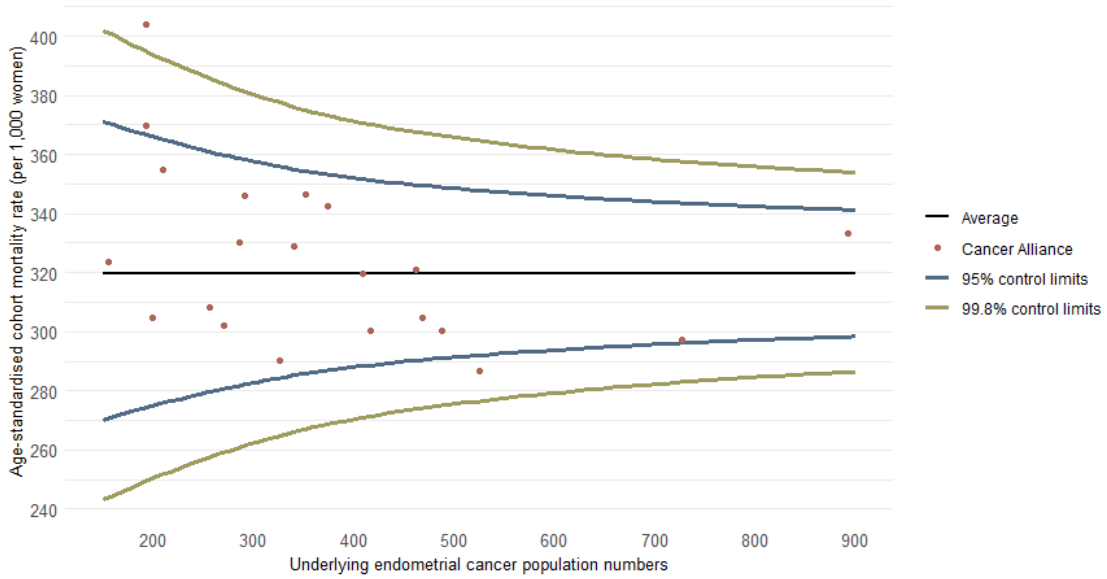
Figure 22 : Age-standardised cohort mortality rates (per 1,000 women diagnosed with endometrial cancer in England from 2017 to 2019), by Cancer Alliance



The crude and age-standardised cohort mortality rates and 95% confidence intervals presented in Figure 22 are provided in the accompanying Excel workbook.

The funnel plot below (Figure 23) shows the variation in ASMRs across Cancer Alliances, with each point representing an individual Cancer Alliance. The size of the underlying cancer population (the number of women who were diagnosed with endometrial cancer from 2017 to 2019) is presented on the horizontal axis, and the ASMR is presented on the vertical axis. This plot shows relatively little variation in mortality rates throughout England, with just one Cancer Alliance showing a rate more than 3SD above the national average.

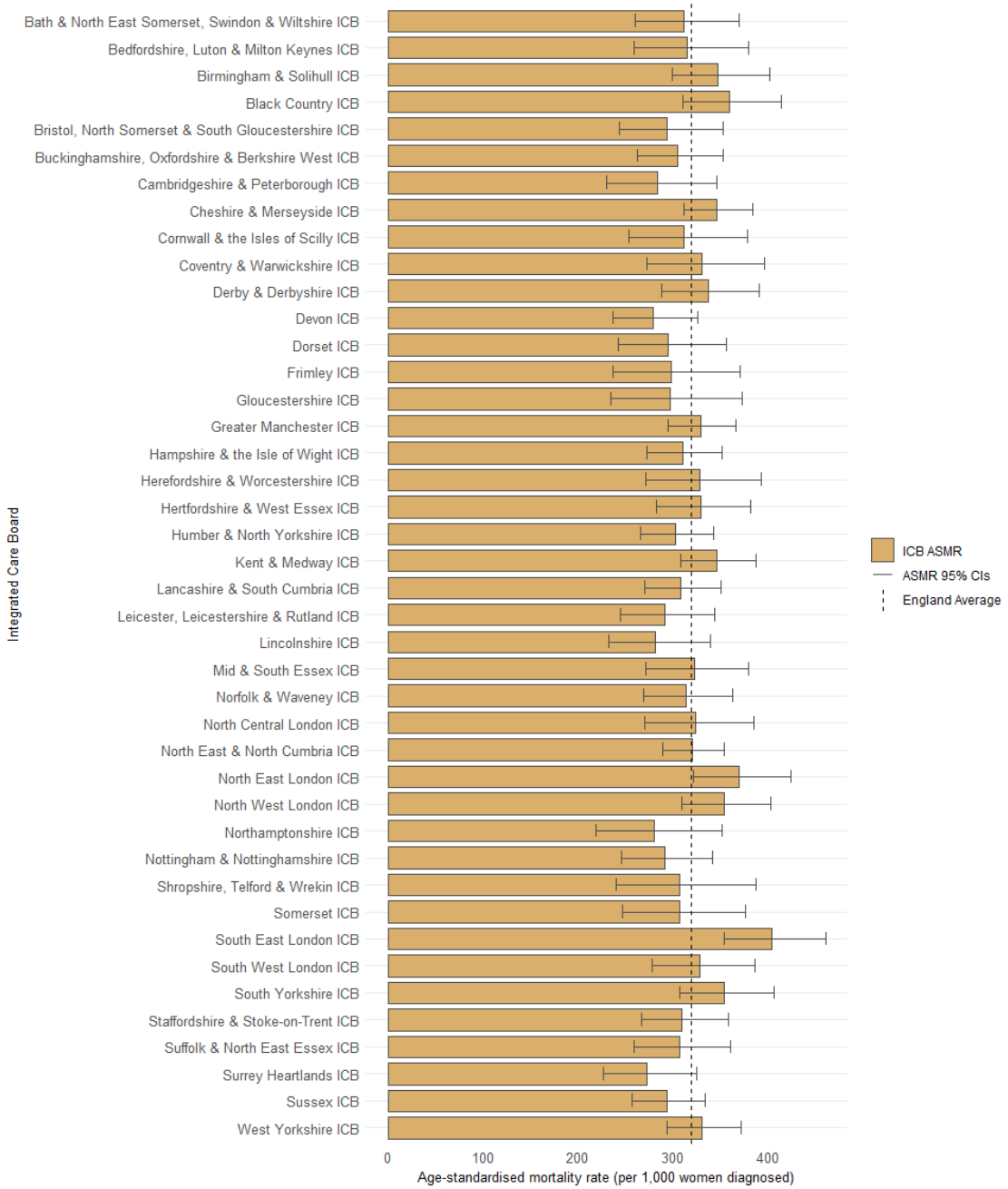
Figure 23 : Age-standardised cohort mortality rates (per 1,000) among women diagnosed with endometrial cancer in England from 2017 to 2019, by Cancer Alliance



Integrated Care Board (ICB)

ASMRs across the 42 ICBs ranged from 272.7 to 404.1 deaths per 1,000 women diagnosed with endometrial cancer from 2017 to 2019 (Figure 24).

Figure 24 : Age-standardised cohort mortality rates (per 1,000) among women diagnosed with endometrial cancer in England from 2017 to 2019, by Integrated Care Board (ICB)

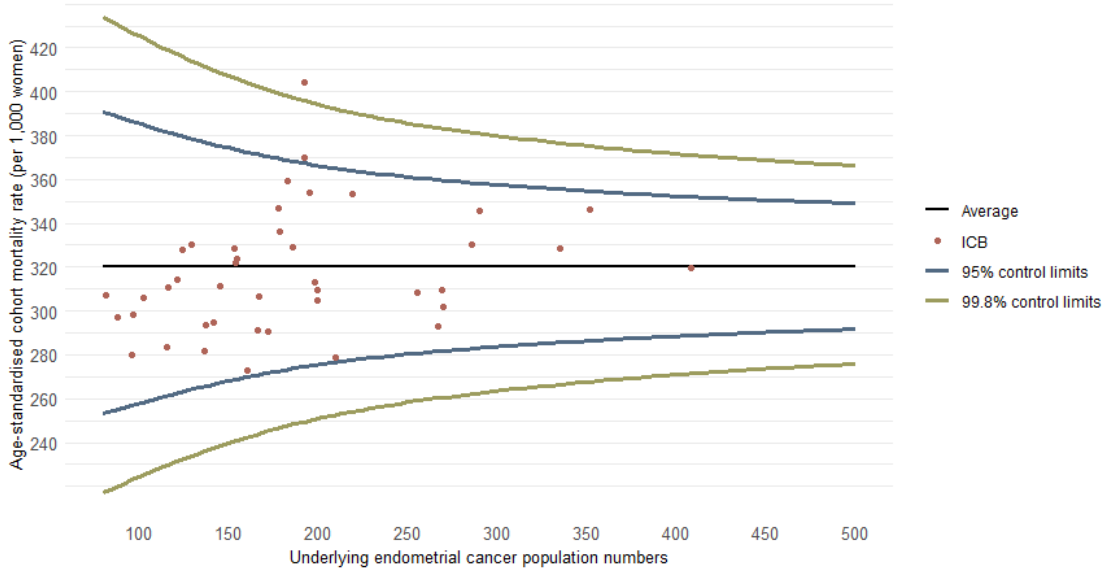


The crude and age-standardised cohort mortality rates and 95% confidence intervals presented in Figure 24 are provided in the accompanying Excel workbook.

The funnel plot below (Figure 25) shows the variation in mortality rates across ICBs, with each point representing an individual ICB. The size of the underlying cancer population (the number of women diagnosed with endometrial cancer from 2017 to 2019) is presented on the horizontal axis, and the ASMR is presented on the vertical axis.

As seen in the Cancer Alliance analysis, there was relatively little variation across England with just one ICB showing a rate more than 3SD above the national average.

Figure 25 : Age-standardised cohort mortality rates (per 1,000 women diagnosed with endometrial cancer in England from 2017 to 2019), by Integrated Care Board (ICB)



Distribution of deaths following a diagnosis of endometrial cancer across patient subgroups

Age at diagnosis

Figure 26 : Distribution of all-cause and endometrial cancer-specific mortality among women diagnosed with endometrial cancer from 2017-2019, by age at diagnosis

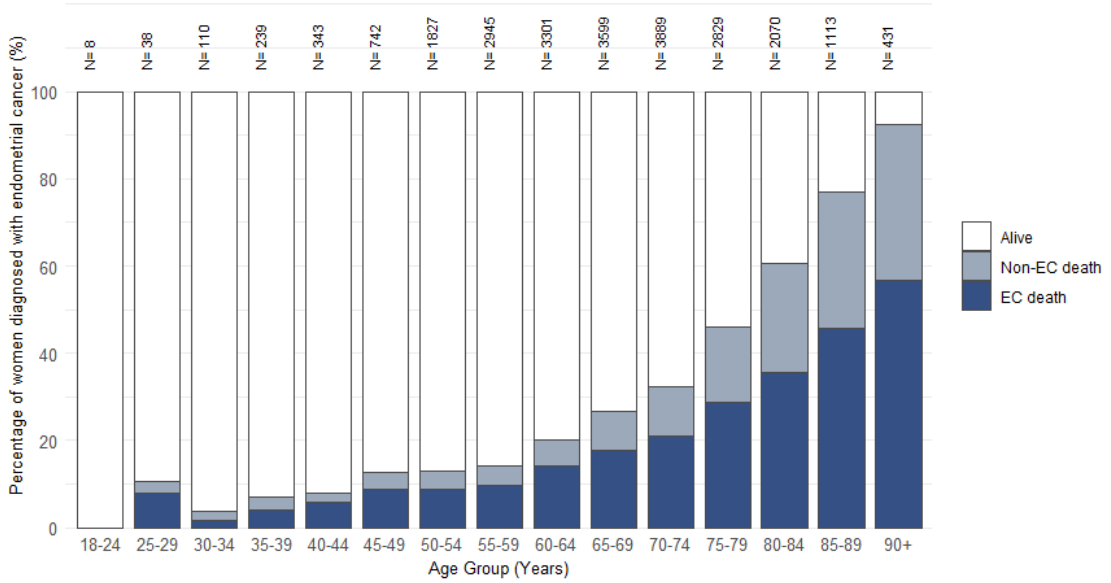
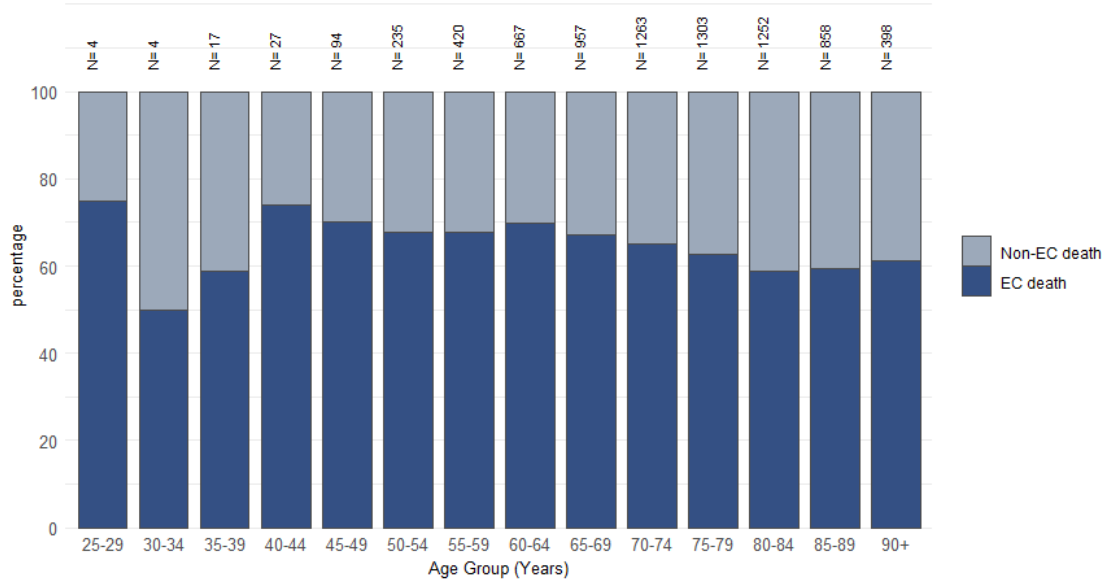


Figure 27 : Distribution of endometrial cancer-specific mortality among women diagnosed with endometrial cancer from 2017-2019 who subsequently died, by age at diagnosis



The percentage of women who died either from endometrial cancer or another cause increased with age at diagnosis (Figure 26). Many women diagnosed with endometrial cancer have significant comorbidities related to obesity, including diabetes and cardiovascular disease.

This analysis explores deaths with endometrial cancer recorded as the cause compared to those of another cause, potentially related to comorbidities.

The breakdown by age group is presented in the table below.

Table 2 : Mortality among women diagnosed with endometrial cancer in England, 2017-2019

		All cause deaths		Endometrial cancer deaths*		
Age group	Total patients	N	%	N	% of total pts	% of all deaths
18-24	8	0	0.0	0	0.0	NA
25-29	38	4	10.5	3	7.9	75.0
30-34	110	4	3.6	2	1.8	50.0
35-39	239	17	7.1	10	4.2	58.8
40-44	343	27	7.9	20	5.8	74.1
45-49	742	94	12.7	66	8.9	70.2
50-54	1,827	235	12.9	159	8.7	67.7
55-59	2,945	420	14.3	284	9.6	67.6
60-64	3,301	667	20.2	465	14.1	69.7
65-69	3,599	957	26.6	642	17.8	67.1
70-74	3,889	1,263	32.5	822	21.1	65.1
75-79	2,829	1,303	46.1	815	28.8	62.5
80-84	2,070	1,252	60.5	738	35.7	58.9
85-89	1,113	858	77.1	510	45.8	59.4
90+	431	398	92.3	244	56.6	61.3
N = Number of patients; % = Percentage; Pts = patients. *Note: Endometrial cancer deaths defined where C54.1/C55 is recorded as the underlying cause of death on the death certificate						

Index of Multiple Deprivation (IMD 2019)

The percentage of women who died either from the endometrial cancer or another cause was broadly comparable across IMD quintiles (Figure 28).

Figure 28 : Distribution of all-cause and endometrial cancer-specific mortality among women diagnosed with endometrial cancer from 2017-2019, by IMD quintile

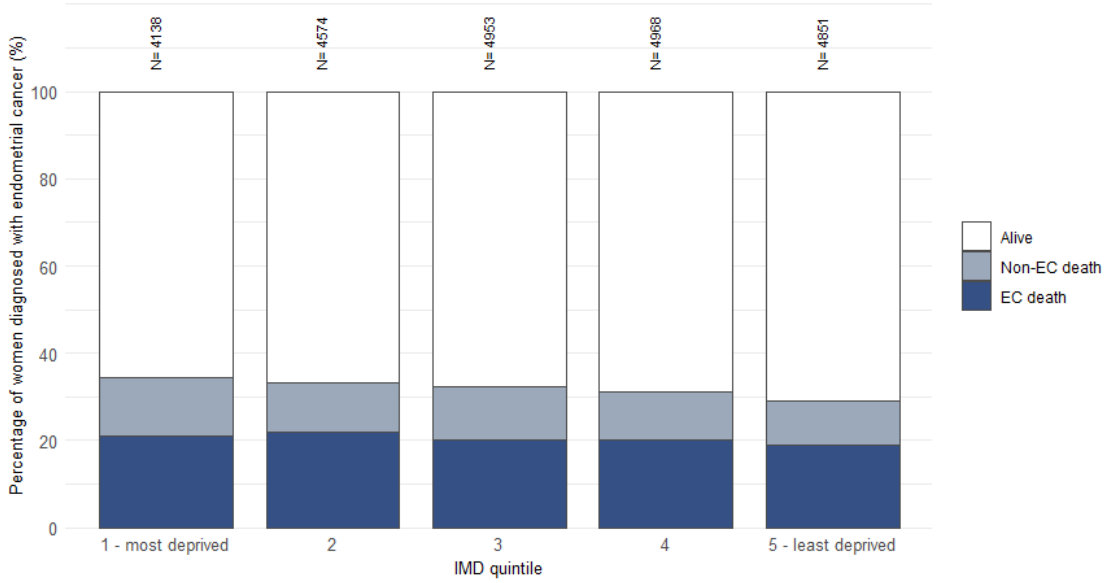
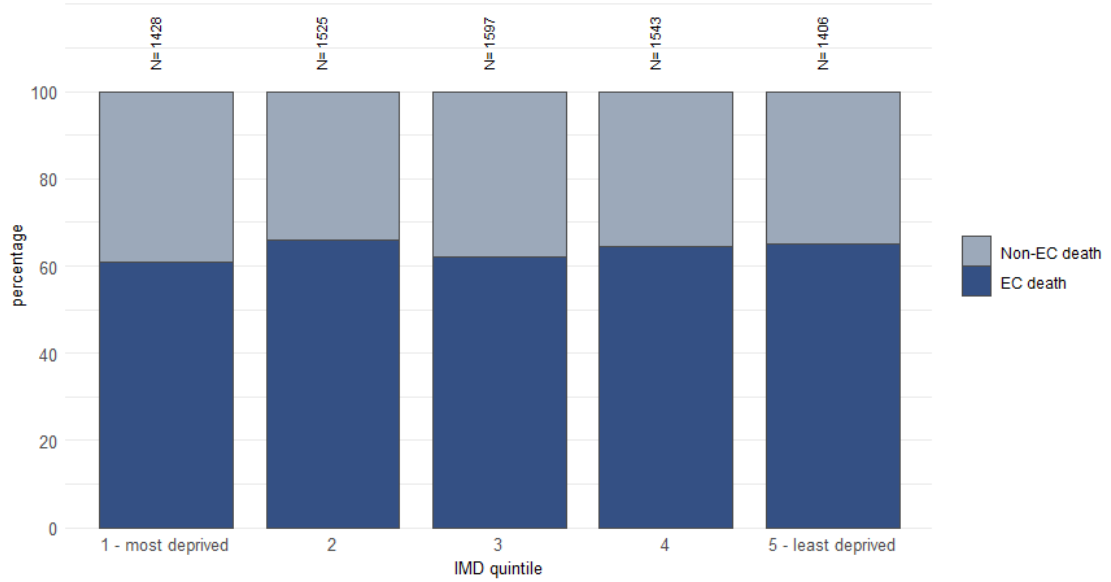


Figure 29 : Distribution of endometrial cancer-specific mortality among women diagnosed with endometrial cancer from 2017-2019 who subsequently died, by IMD quintile



Ethnic group

There was variation by ethnic group in the percentage of women who died from endometrial cancer (Figure 30), although for some ethnic groups the numbers of women diagnosed with endometrial cancer were relatively small.

There was a higher percentage of women in the Black ethnic group who died from any cause compared to women in all other ethnicity groups. Among only those women who had died the difference was less obvious, though the percentage of women who had died from their endometrial cancer was highest among women in the Black ethnic group (Figure 31). This difference warrants further investigation.

Figure 30 : Distribution of all-cause and endometrial cancer-specific mortality among women diagnosed with endometrial cancer from 2017-2019, by ethnic group

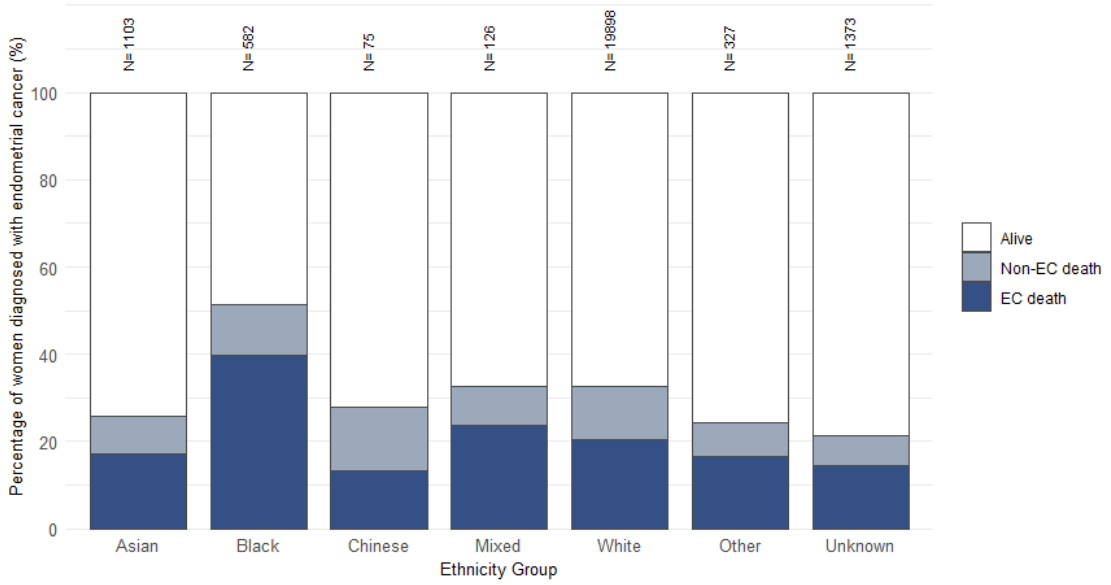
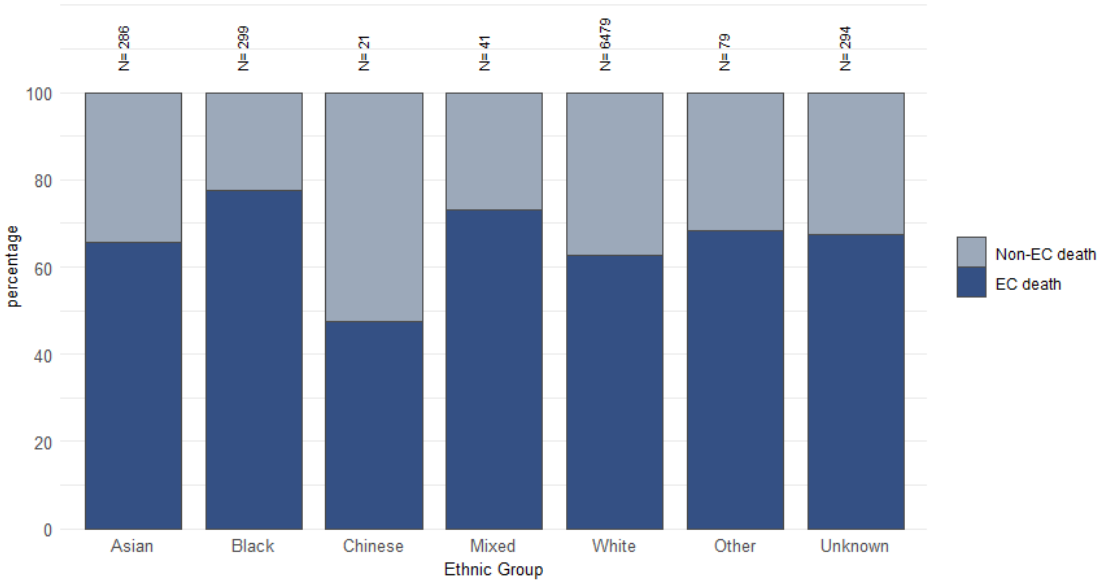


Figure 31 : Distribution of endometrial cancer-specific mortality among women diagnosed with endometrial cancer from 2017-2019 who subsequently died, by ethnic group



Stage at diagnosis

There was variation in the percentage of women who died from the endometrial cancer, or from other causes (Figure 32). The later the stage at diagnosis the higher the percentages of people who died during the period of study. The same pattern was seen in relation to deaths from endometrial cancer, when restricting the analysis to the cohort of women who had died (Figure 33).

Figure 32 : Distribution of all-cause and endometrial cancer-specific mortality among women diagnosed with endometrial cancer from 2017-2019, by stage

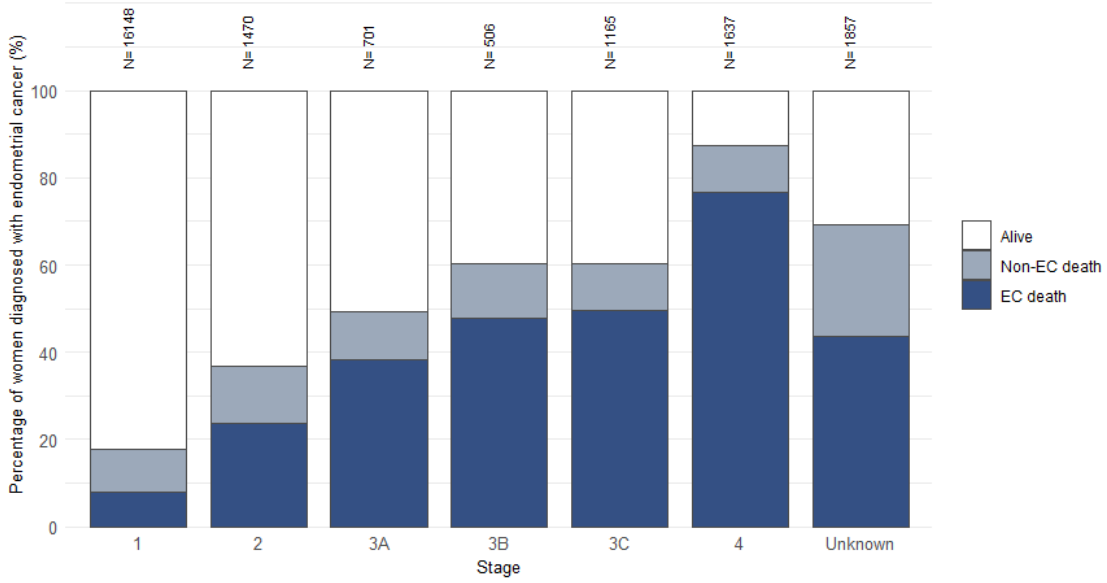
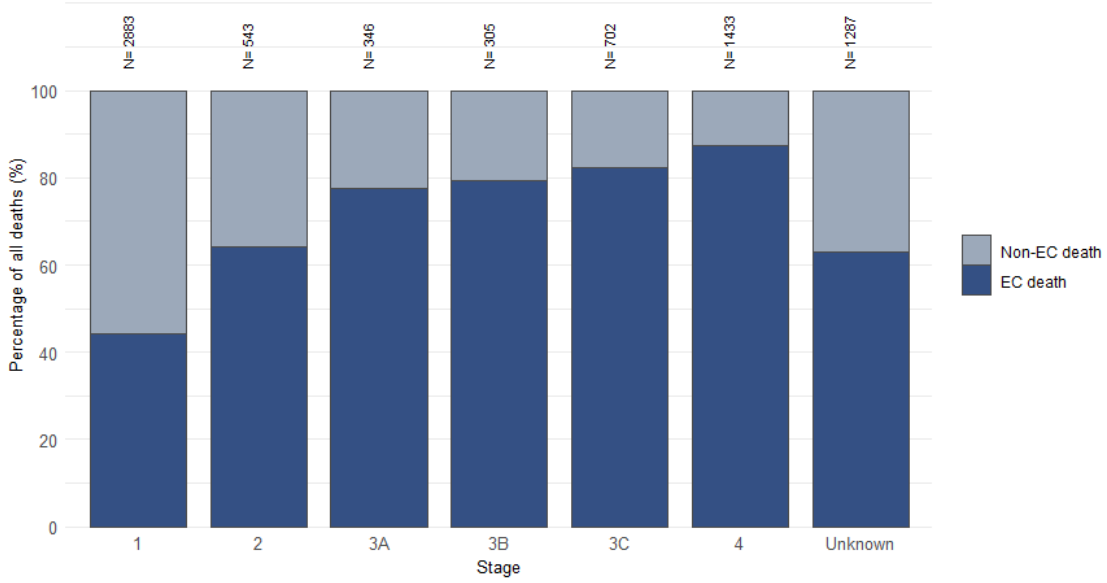


Figure 33 : Distribution of endometrial cancer-specific mortality among women diagnosed with endometrial cancer from 2017-2019 who subsequently died, by stage



Tumour morphology

There was variation in the percentage of women who died from the endometrial cancer, or from another cause, by tumour morphology (Figures 34 & 35).

Figure 34 : Distribution of all-cause and endometrial cancer-specific mortality among women diagnosed with endometrial cancer from 2017-2019, by tumour morphology

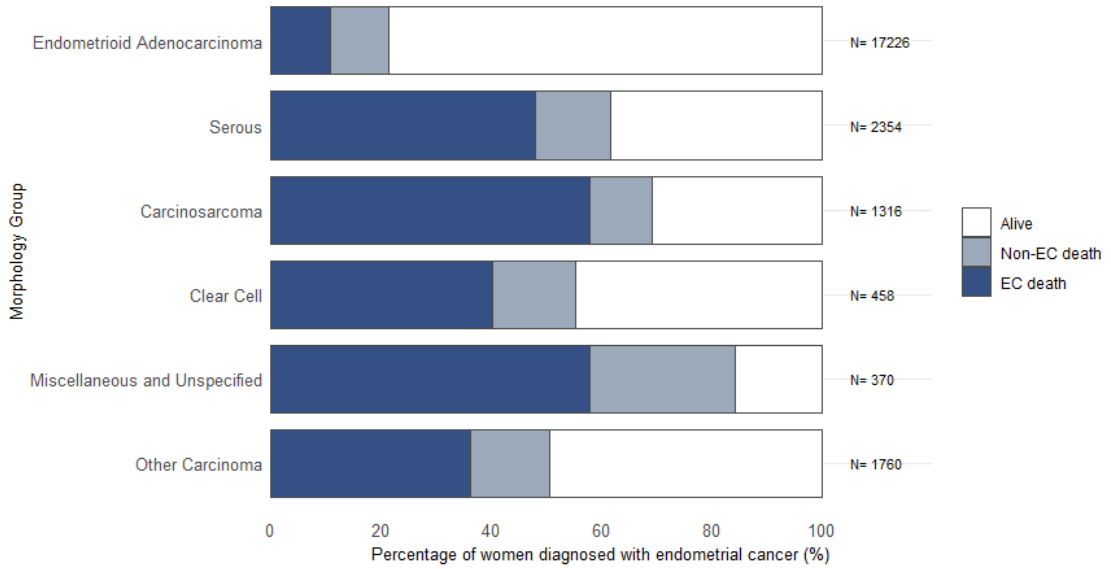
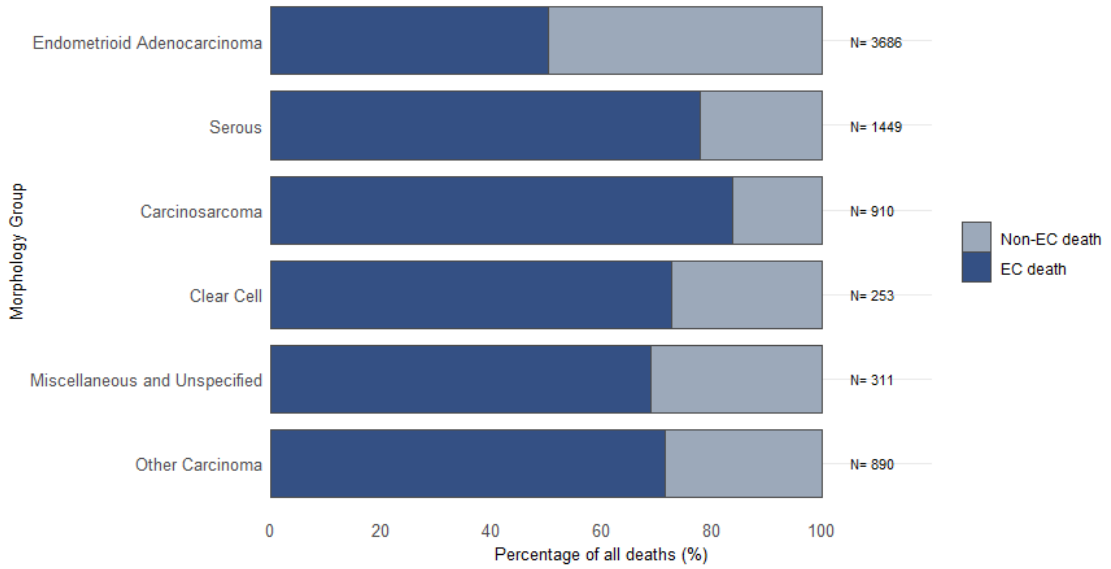


Figure 35 : Distribution of endometrial cancer-specific mortality among women diagnosed with endometrial cancer from 2017-2019 who subsequently died, by tumour morphology



7. Survival following a diagnosis of endometrial cancer

See Appendix 2, subsection “Defining endometrial cancer for the survival analysis”, for information on which patients were included in this section. Additionally, Appendix 6 describes the survival methodology used in this report.

Among 23,376 women diagnosed with endometrial cancer from 2017 to 2019, with follow-up to August 2024, crude overall survival was 89.5%, 77.2% and 70.9% for 1, 3 and 5 years respectively. These overall survival estimates represent the percentage of women who were alive at each time point after diagnosis, regardless of the cause of death. Survival rates were consistent across the years of diagnosis, though these may have been impacted by the Covid-19 pandemic.

Net cancer survival using a relative survival approach

Relative survival measures the impact of cancer on survival by comparing the overall survival of people diagnosed with cancer to the expected survival of the general population. This method involves matching people with cancer and the general population according to factors of age, gender, socioeconomic status (using IMD 2019 quintile) and year of diagnosis. By isolating the excess risk of death attributable to cancer, relative survival aims to account for variations in survival due to unrelated factors like demographic and socioeconomic differences.

However, even after matching for age, gender, socioeconomic status and year, differences in survival rates may still arise due to varying age distributions within patient groups. Age-standardisation was applied to adjust survival estimates to a common reference population age structure, ensuring fair comparisons between different patient subgroups. This step accounts for differences in the age profile of patients across subgroups, such as regions or time periods, and ensures that observed survival differences are not influenced by the subgroups having different age structures.

By standardising survival rates, we minimise the influence of age-related mortality risks and enable comparisons that more accurately reflect differences in cancer outcomes rather than demographic factors.

Among the same cohort of 23,376 women diagnosed with endometrial cancer from 2017 to 2019, with follow-up to the end of August 2024 the 1-year relative survival was 90.9%. This indicates that individuals diagnosed with the condition had a 90.9% likelihood of surviving one year after diagnosis compared to the survival expected in the general population, after accounting for differences such as age, gender, socioeconomic status, and year of diagnosis. Equivalent rates at 3 and 5-years were 80.7% and 77.3% respectively.

The following subsections present 1, 3 and 5-year relative survival estimates by subgroups, including year of diagnosis, age at diagnosis and IMD at diagnosis, to further explore variations in survival outcomes.

Relative survival by year of diagnosis

Age-standardised relative survival was similar for each year of diagnosis, as presented in both the figure and table below.

Figure 36 : 1, 3 and 5-year age-standardised relative survival following a diagnosis of endometrial cancer in England from 2017-2019, by year of diagnosis

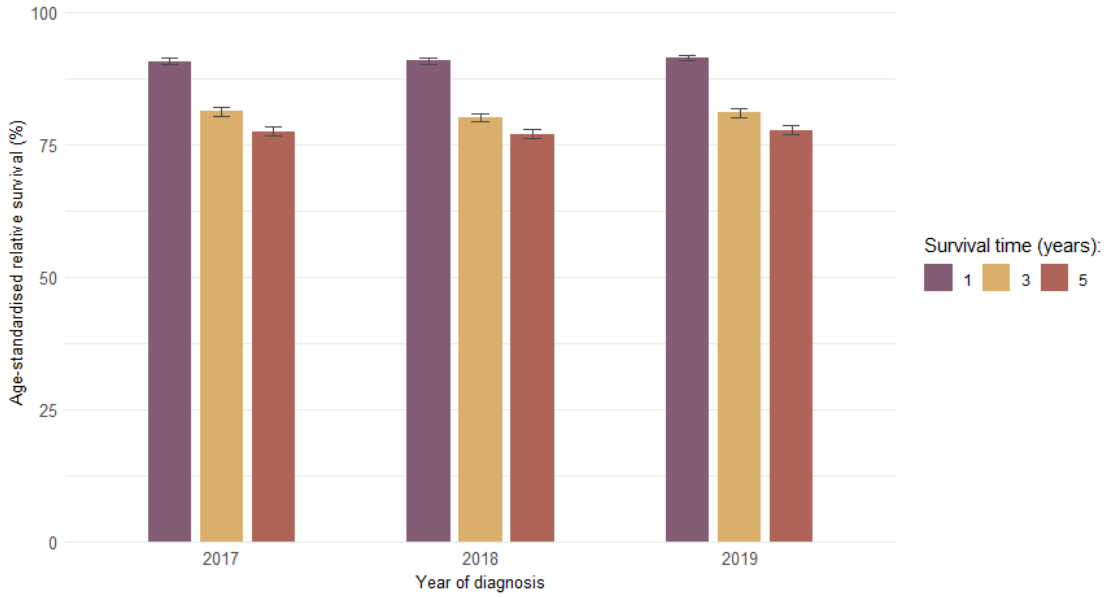


Table 3 : 1, 3, and 5-year age-standardised relative survival by year of diagnosis

Year of diagnosis	1-year relative survival (95% CI)	3-year relative survival (95% CI)	5-year relative survival (95% CI)
2017	90.6% (89.9% - 91.2%)	81.2% (80.4% - 82.0%)	77.4% (76.5% - 78.3%)
2018	90.7% (90.1% - 91.4%)	80.0% (79.3% - 80.8%)	76.9% (76.0% - 77.7%)
2019	91.3% (90.7% - 92.0%)	80.9% (80.1% - 81.8%)	77.7% (76.8% - 78.6%)
Key: CI = Confidence interval.			

Relative survival by age at diagnosis

Relative survival differed by age with lower survival estimates in older age group, as presented in the figure and table below.

As this figure shows survival among women diagnosed with endometrial cancer, compared to survival among women in the same age cohort of the general population in England, the findings suggest that endometrial cancer has more of an impact on survival among older women, than compared with younger women. This may be particularly pronounced at 3 and 5-years following diagnosis.

Subsequent ECAP reports will investigate the extent of any age variation in treatment which may go some way to explaining this age difference.

Figure 37 : 1, 3 and 5-year relative survival following a diagnosis of endometrial cancer in England from 2017-2019, by age at diagnosis

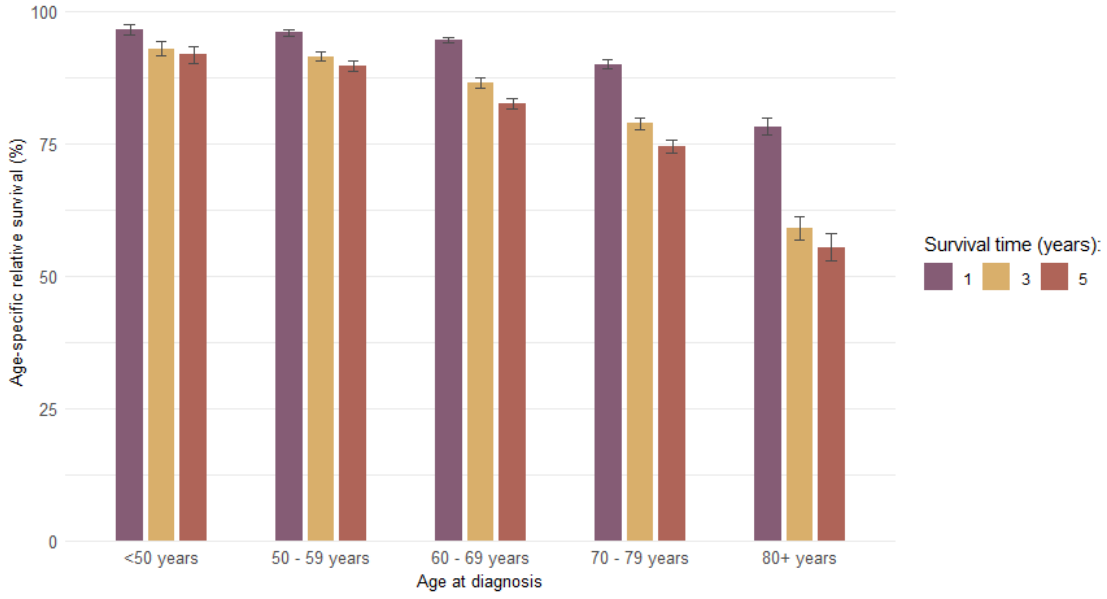


Table 4 : 1, 3, and 5-year relative survival by age at diagnosis

Age group (Years)	1-year relative survival (95% CI)	3-year relative survival (95% CI)	5-year relative survival (95% CI)
<50 years	96.5% (95.6% - 97.5%)	92.9% (91.6% - 94.3%)	91.7% (90.3% - 93.2%)
50 - 59 years	95.9% (95.3% - 96.5%)	91.4% (90.6% - 92.2%)	89.6% (88.6% - 90.6%)
60 - 69 years	94.5% (93.9% - 95.1%)	86.4% (85.5% - 87.3%)	82.5% (81.5% - 83.5%)
70 - 79 years	89.9% (89.2% - 90.7%)	78.8% (77.7% - 80.0%)	74.4% (73.1% - 75.7%)
80+ years	78.2% (76.6% - 79.8%)	58.9% (56.8% - 61.1%)	55.4% (52.9% - 58.1%)
Key: CI = Confidence interval.			

Relative survival by IMD quintile

Looking at the difference in age-standardised relative survival by IMD quintile, there appeared to be a trend of improving survival from most deprived to least deprived across each survival time point. This is presented in the figure and table below.

Figure 38 : 1, 3 and 5-year age-standardised relative survival following a diagnosis of endometrial cancer in England from 2017-2019, by IMD at diagnosis

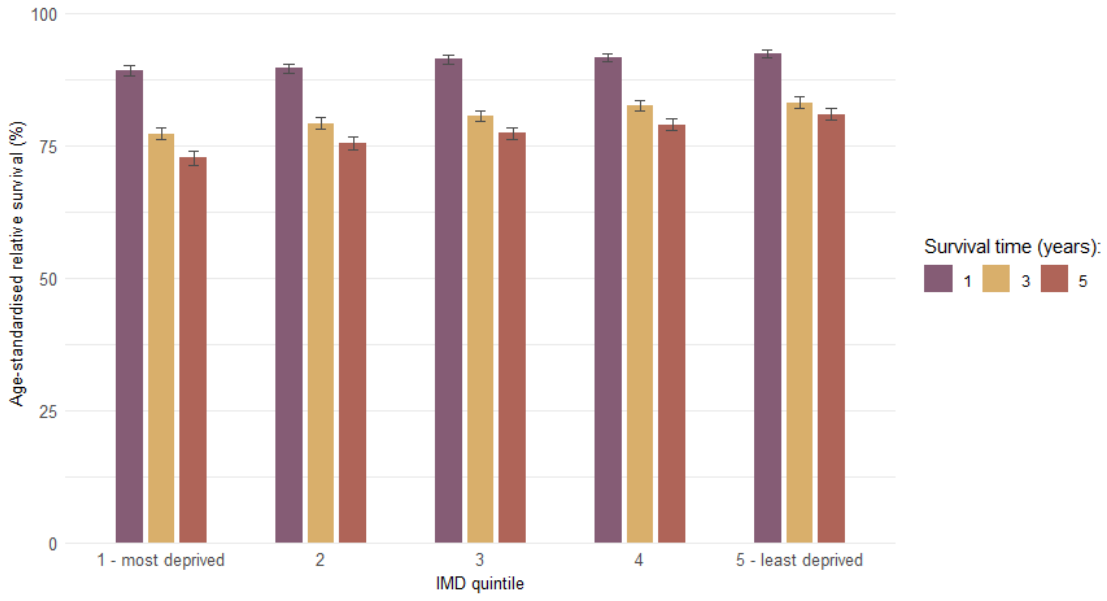


Table 5 : 1, 3, and 5-year age-standardised relative survival by IMD at diagnosis

IMD quintile	1-year relative survival (95% CI)	3-year relative survival (95% CI)	5-year relative survival (95% CI)
1 - most deprived	89.2% (88.2% - 90.1%)	77.2% (76.0% - 78.4%)	72.6% (71.3% - 73.9%)
2	89.5% (88.6% - 90.4%)	79.1% (78.0% - 80.1%)	75.3% (74.2% - 76.5%)
3	91.2% (90.4% - 92.0%)	80.6% (79.6% - 81.6%)	77.3% (76.2% - 78.4%)
4	91.6% (90.8% - 92.3%)	82.5% (81.6% - 83.5%)	78.9% (77.8% - 80.0%)
5 - least deprived	92.3% (91.5% - 93.0%)	83.1% (82.2% - 84.1%)	80.8% (79.7% - 81.9%)
Key: CI = Confidence interval.			

Relative survival by geographical region

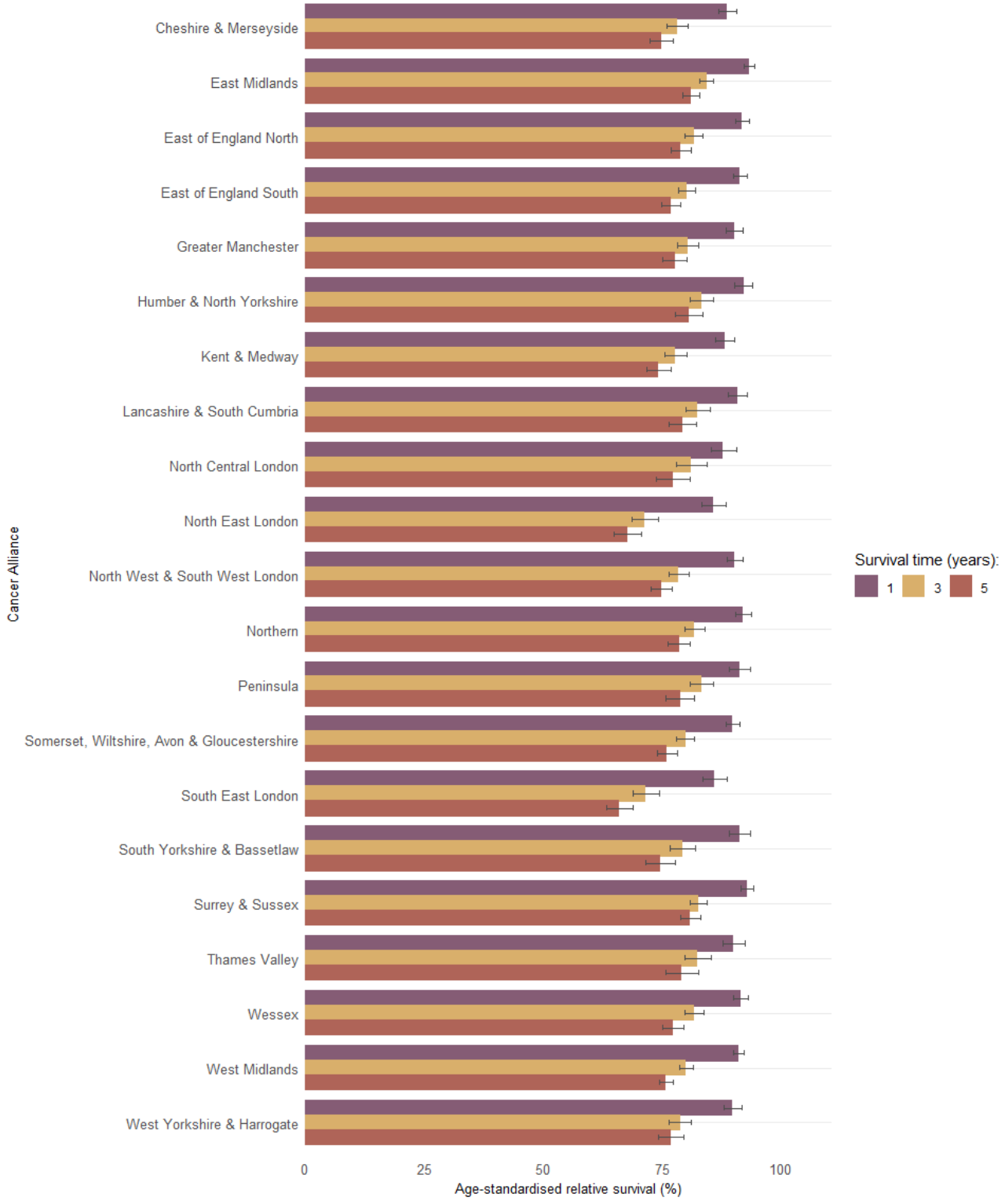
The following plots present 1, 3 and 5-year age-standardised relative survival estimates across geographical regions defined by Cancer Alliances and ICBs. The funnel plots show the variation in age-standardised relative survival estimates across regions, with each point representing an individual Cancer Alliance or ICB. The age-standardised relative survival estimate is presented on the vertical axis, and the precision of the survival estimate is presented on the horizontal axis. Precision (calculated as the inverse of the standard error of estimated survival) is presented as a direct measure of the uncertainty in the survival estimate, with smaller precision indicating more uncertainty. For survival estimates precision is presented as it accounts for both the number at risk and the number of events.

Although some variation was observed, this was predominantly within the limits of what would be expected due to chance given the precision of the survival estimates. There was one cancer alliance where age-standardised relative survival estimates were slightly more than 3SD above the national average.

Of note, compared with the mortality analysis presented earlier where we saw one geographical region had an ASMR more than 3SD above the national average, for survival this same region had 3 and 5-year age-standardised relative survival estimates lower than 3SD below the national average. Additionally, another geographical region had 3 and 5-year age-standardised relative survival estimates lower than 3SD below the national average, however the ASMR for this region was within the 3SD limits of the national average, but outside the 2SD limits. Further work from the ECAP will look at geographical variation in routes to diagnosis and treatments, factors which may contribute to poor survival outcomes.

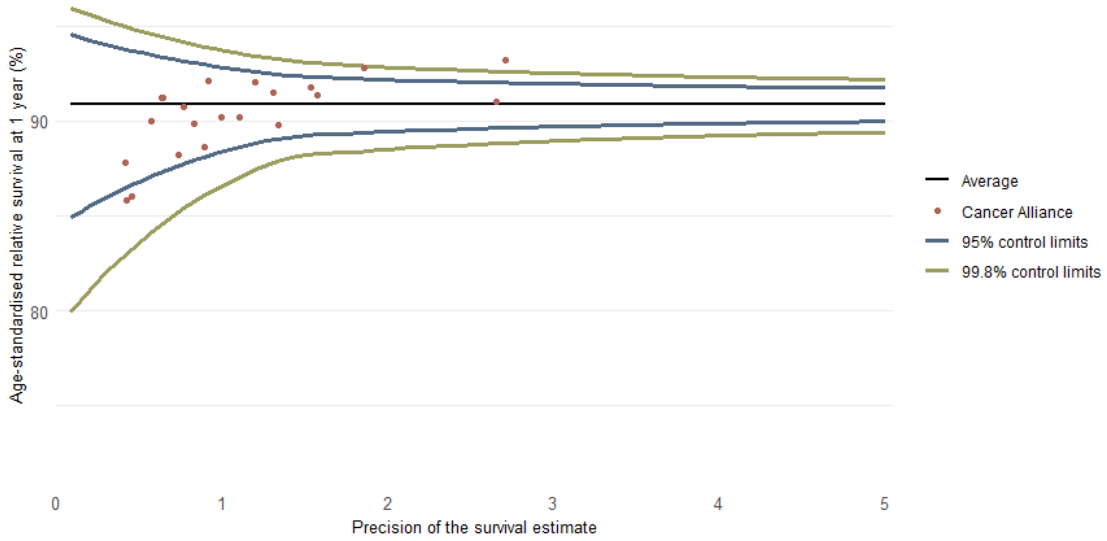
Cancer Alliance

Figure 39 : 1, 3 and 5-year age-standardised relative survival following a diagnosis of endometrial cancer in England from 2017-2019, by Cancer Alliance



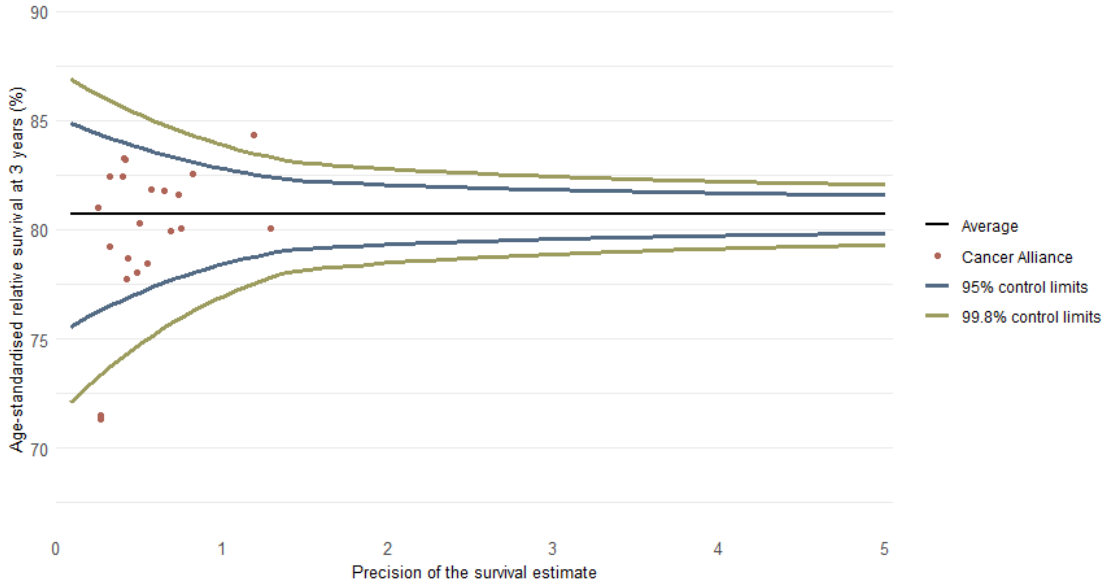
1-year relative survival

Figure 40 : 1-year age-standardised relative survival following a diagnosis of endometrial cancer in England from 2017-2019, by Cancer Alliance



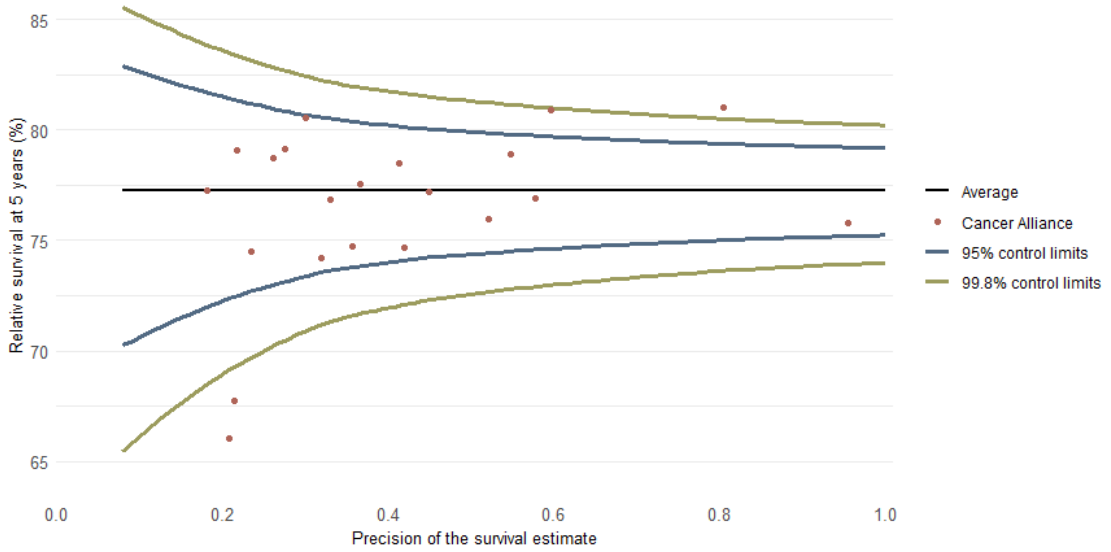
3-year relative survival

Figure 41 : 3-year age-standardised relative survival following a diagnosis of endometrial cancer in England from 2017-2019, by Cancer Alliance



5-year relative survival

Figure 42 : 5-year age-standardised relative survival following a diagnosis of endometrial cancer in England from 2017-2019, by Cancer Alliance



The table below provides the 1, 3 and 5-year age-standardised relative survival estimates plotted in the figures above.

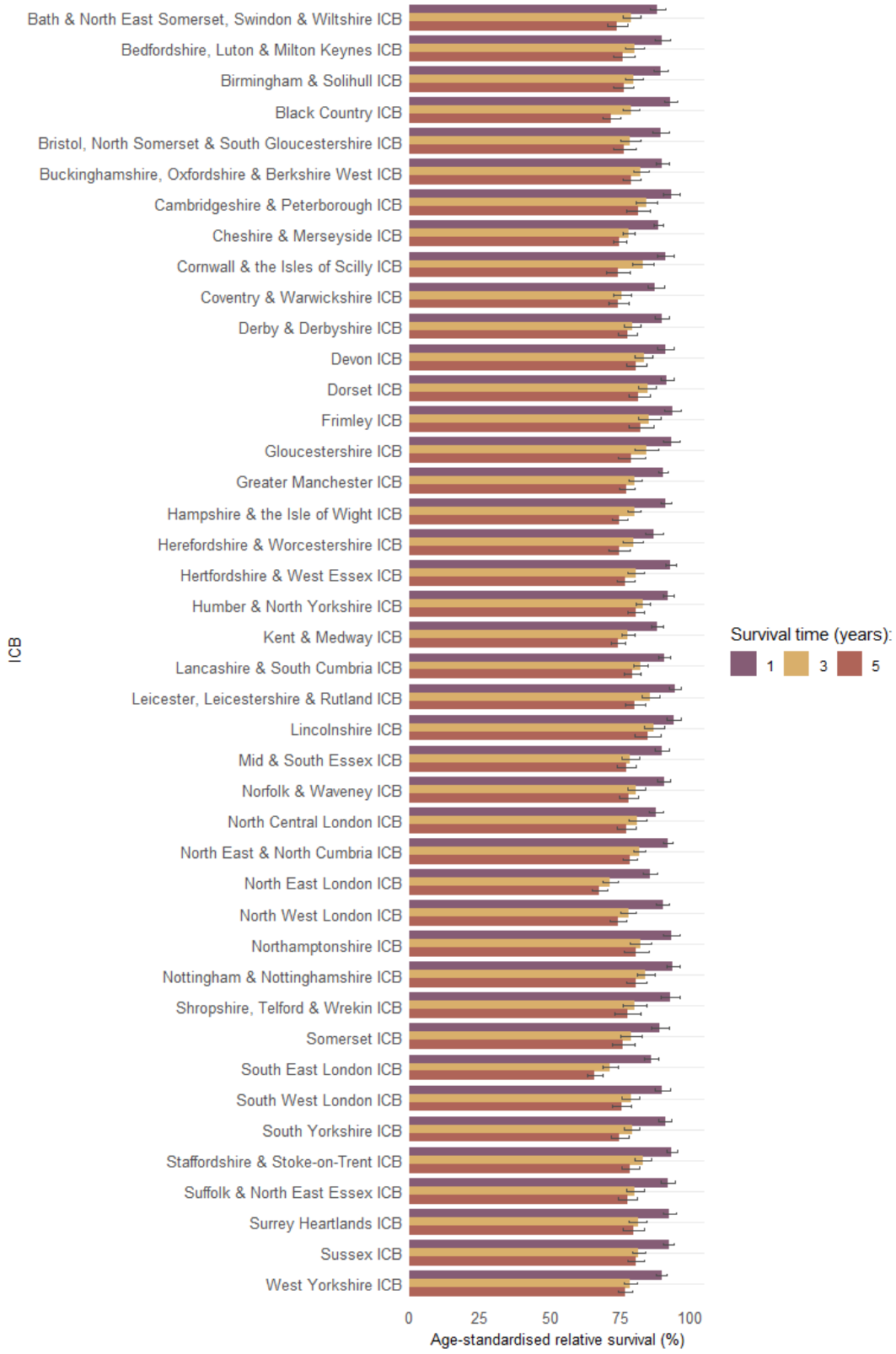
Table 6 : 1, 3, and 5-year age-standardised relative survival following a diagnosis of endometrial cancer from 2017 to 2019, by Cancer Alliance

Cancer Alliance	1-year Relative Survival (95% CI)	3-year Relative Survival (95% CI)	5-year Relative Survival (95% CI)
Cheshire & Merseyside	88.6% (86.8% - 90.5%)	78.1% (75.9% - 80.3%)	74.8% (72.3% - 77.3%)
East Midlands	93.2% (92.1% - 94.3%)	84.3% (82.8% - 85.9%)	81.0% (79.2% - 82.8%)
East of England North	91.8% (90.4% - 93.3%)	81.6% (79.7% - 83.5%)	78.9% (76.8% - 81.0%)
East of England South	91.3% (89.9% - 92.8%)	80.1% (78.3% - 81.9%)	76.9% (74.9% - 78.9%)
Greater Manchester	90.2% (88.4% - 92.0%)	80.3% (78.1% - 82.6%)	77.6% (75.1% - 80.1%)
Humber & North Yorkshire	92.1% (90.2% - 94.0%)	83.2% (80.7% - 85.8%)	80.6% (77.7% - 83.5%)
Kent & Medway	88.2% (86.2% - 90.3%)	77.7% (75.4% - 80.1%)	74.2% (71.7% - 76.8%)

Cancer Alliance	1-year Relative Survival (95% CI)	3-year Relative Survival (95% CI)	5-year Relative Survival (95% CI)
Lancashire & South Cumbria	90.7% (88.7% - 92.8%)	82.4% (79.9% - 85.0%)	79.2% (76.2% - 82.2%)
North Central London	87.8% (85.2% - 90.5%)	81.0% (77.8% - 84.3%)	77.2% (73.8% - 80.9%)
North East London	85.8% (83.3% - 88.5%)	71.3% (68.6% - 74.1%)	67.7% (64.9% - 70.7%)
North West & South West London	90.2% (88.5% - 91.9%)	78.4% (76.4% - 80.6%)	74.7% (72.4% - 77.0%)
Northern	92.0% (90.4% - 93.7%)	81.8% (79.7% - 84.0%)	78.5% (76.1% - 80.9%)
Peninsula	91.2% (89.0% - 93.5%)	83.2% (80.7% - 85.8%)	78.7% (75.8% - 81.8%)
Somerset, Wiltshire, Avon & Gloucestershire	89.8% (88.3% - 91.3%)	79.9% (78.1% - 81.8%)	76.0% (73.9% - 78.1%)
South East London	86.0% (83.6% - 88.6%)	71.5% (68.8% - 74.3%)	66.0% (63.3% - 68.9%)
South Yorkshire & Bassetlaw	91.2% (89.0% - 93.5%)	79.2% (76.5% - 82.0%)	74.5% (71.6% - 77.6%)
Surrey & Sussex	92.8% (91.4% - 94.1%)	82.5% (80.8% - 84.3%)	80.9% (78.9% - 83.0%)
Thames Valley	90.0% (87.7% - 92.4%)	82.4% (79.6% - 85.3%)	79.1% (75.8% - 82.5%)
Wessex	91.5% (89.9% - 93.1%)	81.8% (79.8% - 83.8%)	77.2% (75.0% - 79.5%)
West Midlands	91.0% (89.9% - 92.1%)	80.0% (78.7% - 81.4%)	75.8% (74.3% - 77.3%)
West Yorkshire & Harrogate	89.8% (87.9% - 91.8%)	78.7% (76.4% - 81.1%)	76.8% (74.3% - 79.5%)
Key: CI = Confidence interval.			

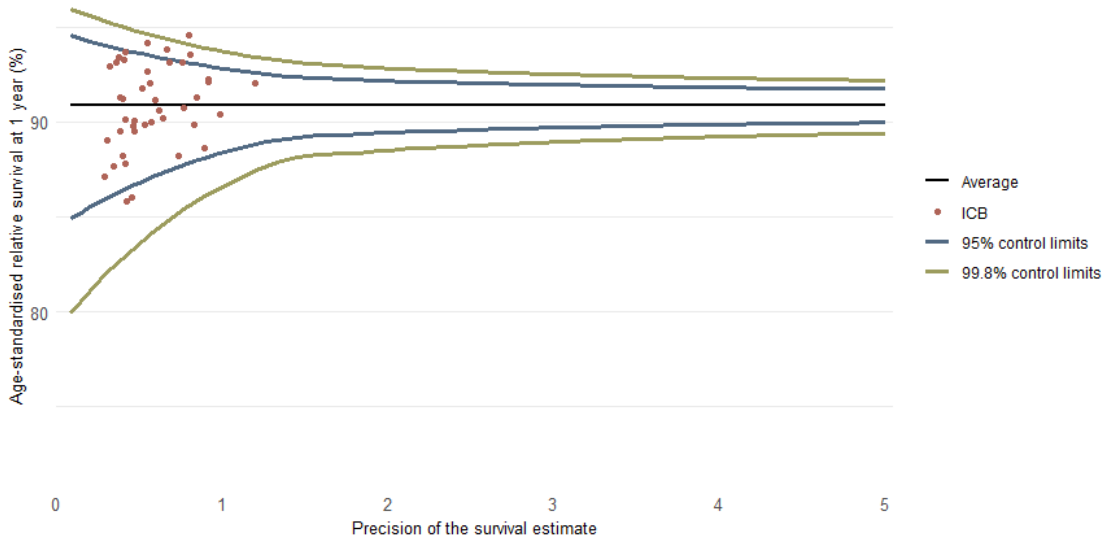
Integrated Care Board

Figure 43 : 1, 3, and 5-year age-standardised relative survival following a diagnosis of endometrial cancer in England from 2017-2019, by Integrated Care Board (ICB)



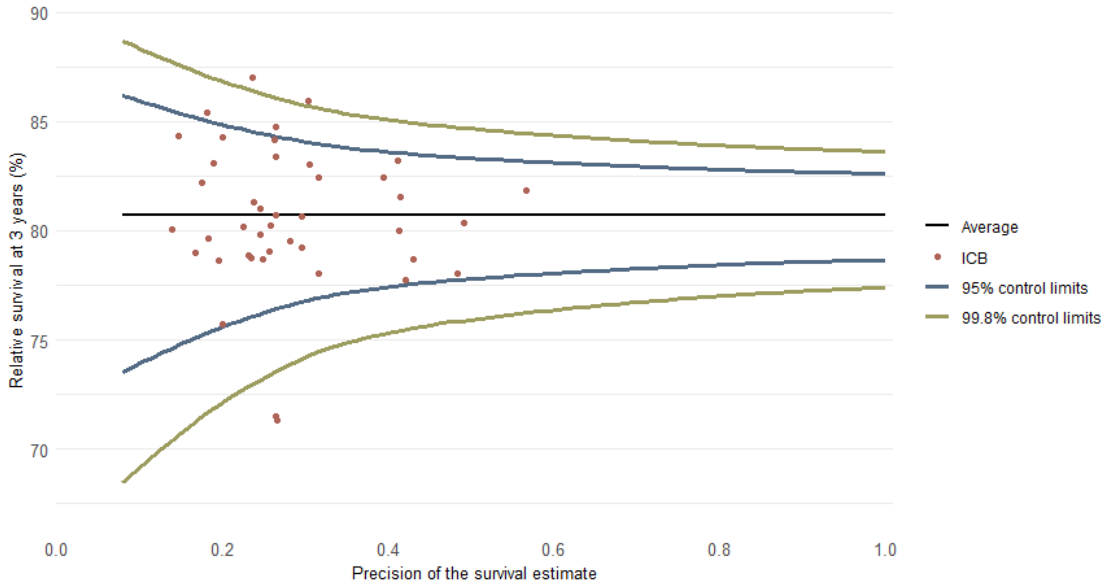
1-year relative survival

Figure 44 : 1-year age-standardised relative survival following a diagnosis of endometrial cancer in England from 2017-2019, by Integrated Care Board



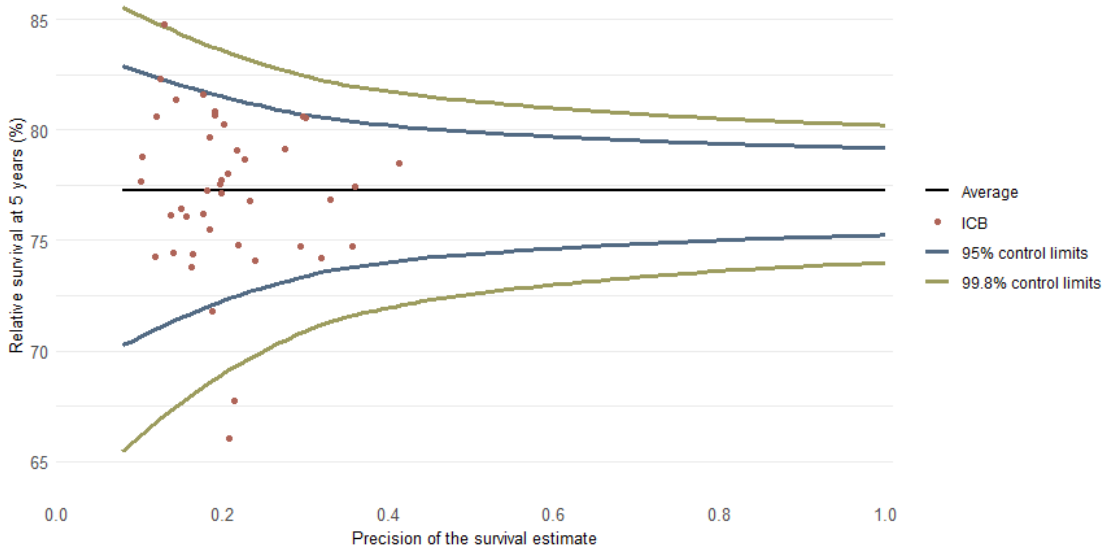
3-year relative survival

Figure 45 : 3-year age-standardised relative survival following a diagnosis of endometrial cancer in England from 2017-2019, by Integrated Care Board



5-year relative survival

Figure 46 : 5-year age-standardised relative survival following a diagnosis of endometrial cancer in England from 2017-2019, by Integrated Care Board



The estimates of 1, 3, and 5-year age-standardised relative survival, and 95% confidence intervals, plotted in the graphs above are provided in the table below as well as in the accompanying Excel workbook.

Table 7 : 1, 3, and 5-year age-standardised relative survival following a diagnosis of endometrial cancer from 2017 to 2019, by Integrated Care Board (ICB)

ICB	1-year Relative Survival (95% CI)	3-year Relative Survival (95% CI)	5-year Relative Survival (95% CI)
Bath & North East Somerset, Swindon & Wiltshire ICB	88.2% (85.5% - 91.0%)	78.9% (75.7% - 82.2%)	73.8% (70.3% - 77.5%)
Bedfordshire, Luton & Milton Keynes ICB	90.1% (87.4% - 92.9%)	80.2% (77.0% - 83.6%)	76.1% (72.4% - 79.9%)
Birmingham & Solihull ICB	89.5% (87.0% - 92.1%)	79.8% (76.7% - 83.1%)	76.2% (72.7% - 79.8%)
Black Country ICB	93.1% (90.9% - 95.4%)	79.0% (76.0% - 82.1%)	71.8% (68.6% - 75.1%)
Bristol, North Somerset & South Gloucestershire ICB	89.5% (86.7% - 92.4%)	78.6% (75.2% - 82.2%)	76.5% (72.7% - 80.4%)

ICB	1-year Relative Survival (95% CI)	3-year Relative Survival (95% CI)	5-year Relative Survival (95% CI)
Buckinghamshire, Oxfordshire & Berkshire West ICB	90.0% (87.7% - 92.4%)	82.4% (79.6% - 85.3%)	79.1% (75.8% - 82.5%)
Cambridgeshire & Peterborough ICB	93.3% (90.4% - 96.2%)	84.3% (80.7% - 88.1%)	81.4% (77.3% - 85.7%)
Cheshire & Merseyside ICB	88.6% (86.8% - 90.5%)	78.1% (75.9% - 80.3%)	74.8% (72.3% - 77.3%)
Cornwall & the Isles of Scilly ICB	91.3% (88.4% - 94.2%)	83.1% (79.4% - 86.9%)	74.3% (70.2% - 78.6%)
Coventry & Warwickshire ICB	87.6% (84.7% - 90.6%)	75.7% (72.5% - 79.1%)	74.4% (70.9% - 78.1%)
Derby & Derbyshire ICB	89.9% (87.5% - 92.3%)	79.5% (76.7% - 82.5%)	77.6% (74.2% - 81.1%)
Devon ICB	91.2% (88.4% - 94.1%)	83.4% (80.2% - 86.6%)	80.8% (77.3% - 84.5%)
Dorset ICB	91.8% (89.3% - 94.3%)	84.7% (81.6% - 88.0%)	81.6% (77.9% - 85.5%)
Frimley ICB	93.7% (90.9% - 96.6%)	85.4% (81.5% - 89.4%)	82.3% (77.9% - 87.0%)
Gloucestershire ICB	93.2% (90.1% - 96.3%)	84.3% (80.1% - 88.8%)	78.8% (74.1% - 83.8%)
Greater Manchester ICB	90.4% (88.6% - 92.2%)	80.3% (78.1% - 82.6%)	77.4% (75.0% - 80.0%)
Hampshire & the Isle of Wight ICB	91.3% (89.4% - 93.2%)	80.0% (77.6% - 82.5%)	74.7% (72.1% - 77.5%)
Herefordshire & Worcestershire ICB	87.1% (84.0% - 90.4%)	79.6% (76.1% - 83.4%)	74.5% (70.7% - 78.5%)
Hertfordshire & West Essex ICB	93.1% (91.1% - 95.3%)	80.7% (77.8% - 83.6%)	76.8% (73.7% - 80.0%)
Humber & North Yorkshire ICB	92.1% (90.2% - 94.0%)	83.2% (80.7% - 85.8%)	80.6% (77.7% - 83.5%)
Kent & Medway ICB	88.2% (86.2% - 90.3%)	77.7% (75.4% - 80.1%)	74.2% (71.7% - 76.8%)
Lancashire & South Cumbria ICB	90.7% (88.7% - 92.8%)	82.4% (79.9% - 85.0%)	79.2% (76.2% - 82.2%)
Leicester, Leicestershire & Rutland ICB	94.6% (92.5% - 96.7%)	85.9% (82.9% - 89.1%)	80.3% (76.8% - 83.9%)
Lincolnshire ICB	94.2% (91.7% - 96.7%)	87.0% (83.6% - 90.6%)	84.8% (80.3% - 89.5%)
Mid & South Essex ICB	89.8% (87.2% - 92.4%)	78.7% (75.6% - 81.8%)	77.2% (73.9% - 80.6%)
Norfolk & Waveney ICB	90.6% (88.4% - 92.9%)	80.7% (77.7% - 83.8%)	78.0% (74.7% - 81.5%)

ICB	1-year Relative Survival (95% CI)	3-year Relative Survival (95% CI)	5-year Relative Survival (95% CI)
North Central London ICB	87.8% (85.2% - 90.5%)	81.0% (77.8% - 84.3%)	77.2% (73.8% - 80.9%)
North East & North Cumbria ICB	92.0% (90.4% - 93.7%)	81.8% (79.7% - 84.0%)	78.5% (76.1% - 80.9%)
North East London ICB	85.8% (83.3% - 88.5%)	71.3% (68.6% - 74.1%)	67.7% (64.9% - 70.7%)
North West London ICB	90.2% (88.0% - 92.5%)	78.0% (75.3% - 80.8%)	74.1% (71.2% - 77.1%)
Northamptonshire ICB	93.4% (90.4% - 96.4%)	82.2% (78.4% - 86.1%)	80.6% (76.2% - 85.3%)
Nottingham & Nottinghamshire ICB	93.8% (91.6% - 96.1%)	84.1% (81.0% - 87.4%)	80.7% (77.1% - 84.4%)
Shropshire, Telford & Wrekin ICB	92.9% (89.8% - 96.2%)	80.0% (75.9% - 84.3%)	77.6% (73.0% - 82.6%)
Somerset ICB	89.1% (85.9% - 92.3%)	79.0% (75.3% - 82.9%)	76.1% (72.2% - 80.3%)
South East London ICB	86.0% (83.6% - 88.6%)	71.5% (68.8% - 74.3%)	66.0% (63.3% - 68.9%)
South West London ICB	90.1% (87.5% - 92.7%)	78.8% (75.6% - 82.0%)	75.5% (72.2% - 79.0%)
South Yorkshire ICB	91.1% (88.8% - 93.5%)	79.2% (76.4% - 82.1%)	74.8% (71.7% - 78.0%)
Staffordshire & Stoke-on-Trent ICB	93.5% (91.5% - 95.6%)	83.1% (80.2% - 86.1%)	78.6% (75.5% - 82.0%)
Suffolk & North East Essex ICB	92.0% (89.6% - 94.5%)	80.3% (77.2% - 83.4%)	77.7% (74.4% - 81.2%)
Surrey Heartlands ICB	92.6% (90.2% - 95.1%)	81.3% (78.1% - 84.6%)	79.7% (76.1% - 83.4%)
Sussex ICB	92.3% (90.4% - 94.2%)	81.6% (79.1% - 84.1%)	80.6% (77.7% - 83.5%)
West Yorkshire ICB	89.8% (87.9% - 91.8%)	78.7% (76.4% - 81.1%)	76.8% (74.3% - 79.5%)
Key: CI = Confidence interval.			

Net cancer survival using a cause-specific survival approach

Women diagnosed with endometrial cancer tend to have higher rates of obesity and related comorbidities compared to women in the general population. These conditions increase their baseline mortality risk, meaning they are more likely to die from causes unrelated to the cancer.

When estimating net cancer survival using a relative survival approach, the general population's expected mortality rates are used as a comparison to determine how much worse survival is for women with cancer. However, this approach assumes that the general population's mortality risk reflects the baseline risk of women with endometrial cancer. This may not be accurate because women with endometrial cancer often have higher mortality risks due to obesity and other health conditions. As a result, the relative survival approach may overestimate the impact of endometrial cancer itself.

To address this, cause-specific survival was also estimated. This method considers only deaths where the underlying cause of death is recorded as endometrial cancer (identified where ICD-10 codes C54.1 or C55 were recorded as the underlying cause of death on their death certificate). By focusing solely on cancer-specific deaths, cause-specific survival provides a clearer picture of survival related directly to endometrial cancer, avoiding the bias introduced by higher non-cancer-related mortality among these women.

As with relative survival, age-standardisation was applied to adjust survival estimates to a common reference population age structure, to minimise the influence of age-related mortality risks and ensure fair comparisons between different patient subgroups.

Endometrial cancer-specific survival by year of diagnosis

Endometrial cancer-specific survival was 91.8%, 82.9% and 79.5% for 1, 3 and 5 years respectively.

Endometrial cancer-specific survival was observed to be similar for each year of diagnosis. This is seen in both the figure and table below.

Figure 47 : 1, 3 and 5-year age-standardised endometrial cancer-specific survival following a diagnosis of endometrial cancer in England from 2017-2019, by year of diagnosis

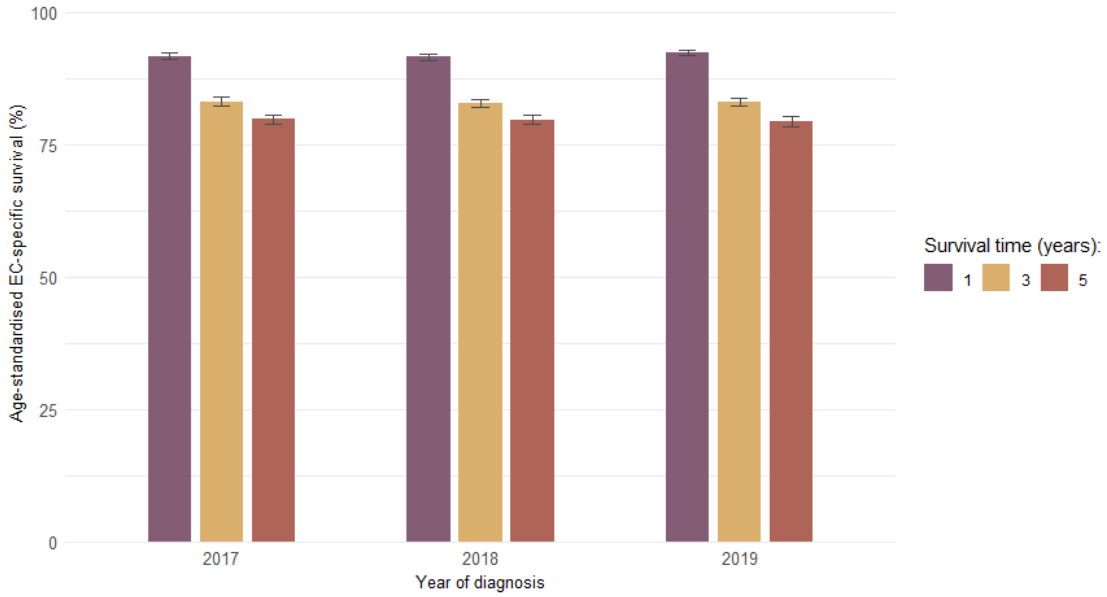


Table 8 : 1, 3, and 5-year age-standardised endometrial cancer-specific survival, by year of diagnosis

Year of diagnosis	1-year EC Survival (95% CI)	3-year EC Survival (95% CI)	5-year EC Survival (95% CI)
2017	91.6% (91.0% - 92.2%)	83.1% (82.2% - 83.9%)	79.7% (78.8% - 80.6%)
2018	91.5% (90.9% - 92.1%)	82.7% (81.8% - 83.5%)	79.6% (78.7% - 80.5%)
2019	92.3% (91.7% - 92.9%)	83.0% (82.1% - 83.8%)	79.3% (78.4% - 80.2%)
Key: Endometrial cancer; CI = Confidence interval.			

Endometrial cancer-specific survival by age at diagnosis

Differences were evident by age, with survival from endometrial cancer being consistently shortest in older age groups.

Figure 48 : 1, 3 and 5-year endometrial cancer-specific survival following a diagnosis of endometrial cancer in England from 2017-2019, by age at diagnosis

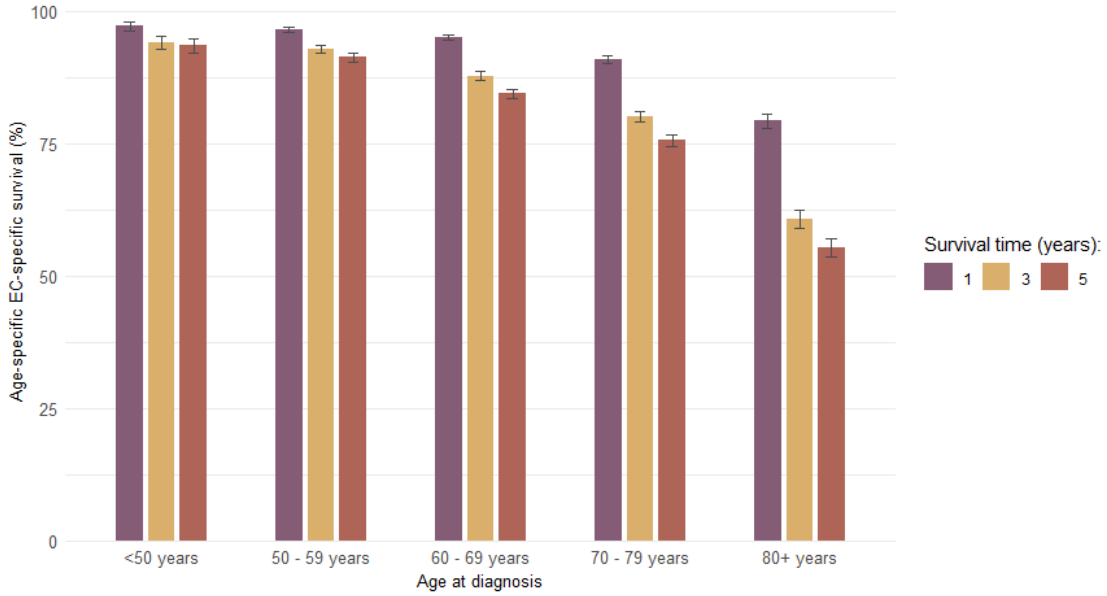


Table 9 : 1, 3, and 5-year endometrial cancer-specific survival, by age at diagnosis

Age at diagnosis	1-year EC Survival (95% CI)	3-year EC Survival (95% CI)	5-year EC Survival (95% CI)
<50 years	97.1% (96.2% - 97.9%)	94.1% (92.9% - 95.3%)	93.4% (92.1% - 94.7%)
50 - 59 years	96.5% (96.0% - 97.0%)	92.8% (92.1% - 93.6%)	91.2% (90.4% - 92.0%)
60 - 69 years	95.1% (94.5% - 95.6%)	87.7% (86.9% - 88.5%)	84.4% (83.5% - 85.3%)
70 - 79 years	90.8% (90.2% - 91.5%)	80.1% (79.1% - 81.1%)	75.6% (74.5% - 76.6%)
80+ years	79.2% (77.8% - 80.6%)	60.6% (59.0% - 62.4%)	55.3% (53.6% - 57.1%)
Key: EC = Endometrial cancer; CI = Confidence interval.			

Endometrial cancer-specific survival by IMD quintile

Looking at differences in endometrial cancer-specific survival by IMD quintile, similar to the relative survival estimates, there appeared to be a trend of improving survival from most deprived to least deprived across each survival time point, however this was less pronounced than estimated for relative survival. This is presented in the figure and table below.

Figure 49 : 1, 3 and 5-year age-standardised endometrial cancer-specific survival following a diagnosis of endometrial cancer in England from 2017-2019, by IMD at diagnosis

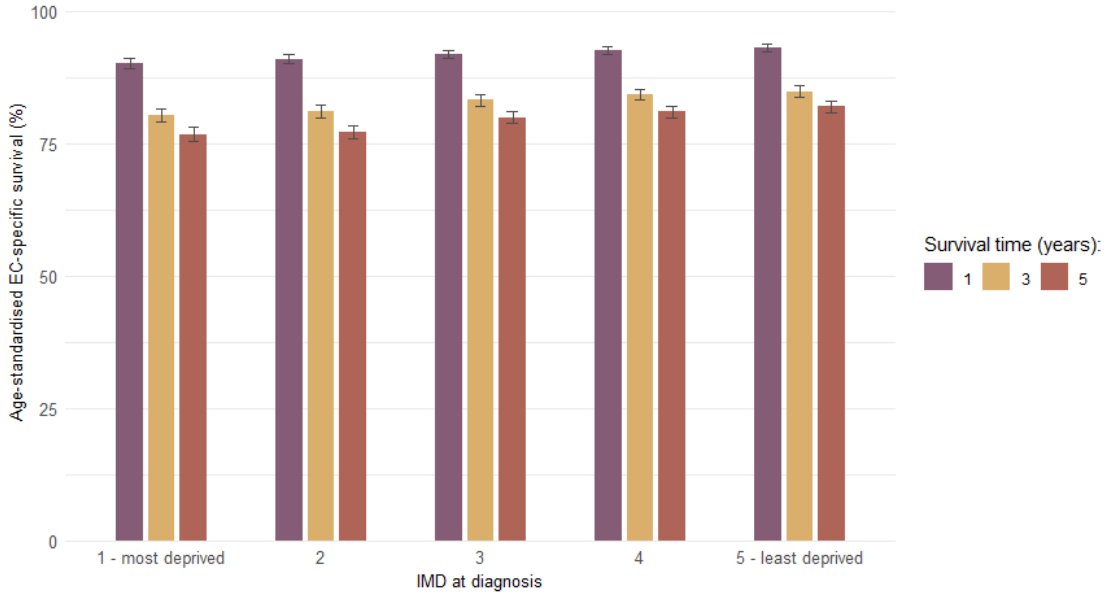


Table 10 : 1, 3, and 5-year age-standardised endometrial cancer-specific survival, by IMD at diagnosis

IMD quintile	1-year EC Survival (95% CI)	3-year EC Survival (95% CI)	5-year EC Survival (95% CI)
1 - most deprived	90.2% (89.2% - 91.1%)	80.4% (79.1% - 81.6%)	76.7% (75.3% - 78.0%)
2	90.9% (90.0% - 91.7%)	81.1% (79.9% - 82.2%)	77.2% (75.9% - 78.4%)
3	91.9% (91.1% - 92.6%)	83.2% (82.2% - 84.2%)	79.9% (78.8% - 81.0%)
4	92.5% (91.8% - 93.2%)	84.2% (83.2% - 85.2%)	80.9% (79.8% - 82.0%)
5 - least deprived	93.1% (92.3% - 93.8%)	84.8% (83.8% - 85.8%)	81.9% (80.8% - 83.0%)
Key: Endometrial cancer; CI = Confidence interval.			

Endometrial cancer-specific survival by geographical region

The following plots present 1, 3 and 5-year age-standardised endometrial cancer-specific survival estimates across geographical regions defined by Cancer Alliances and ICBs.

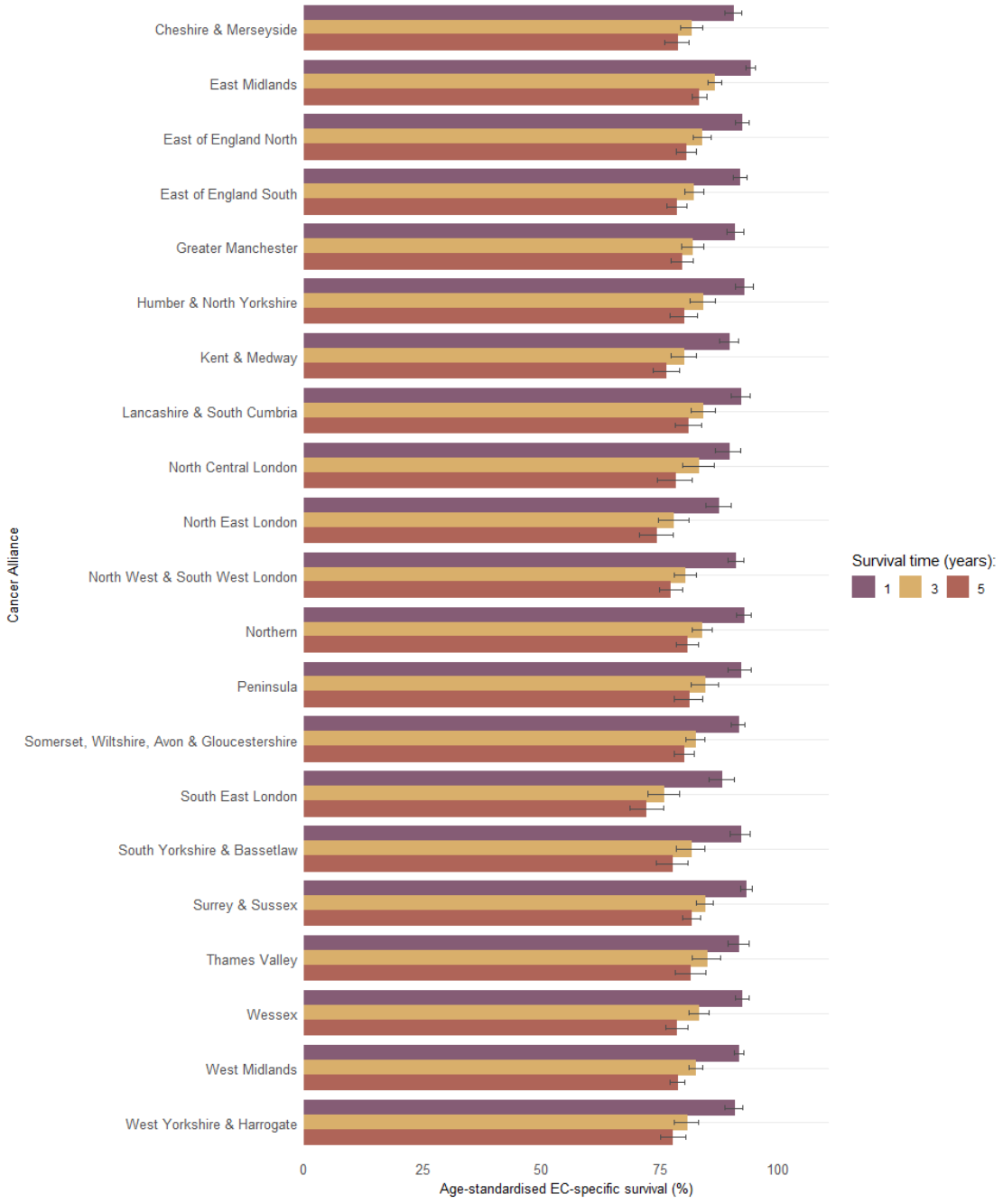
The observed variation was predominantly within the limits of what we would expect to see given the precision of the survival estimates. There was one region where the age-standardised endometrial cancer-specific survival estimates were slightly more than 3SD above the national average for each of 1, 3 and 5-years.

Similar to the age-standardised relative survival, and to the mortality analysis, one geographical region had 3 and 5-year age-standardised endometrial cancer-specific survival estimates more than 3SD below the national average. Interestingly, this high endometrial cancer mortality statistical outlier geography appears to sit closer to the national average within the endometrial cancer-specific survival analysis than it does within the relative survival analysis. This may suggest that factors beyond age and deprivation, such as for example comorbidities, may have had an impact on findings of the analysis.

For each of 1, 3 and 5-year age-standardised endometrial cancer-specific survival there is one cancer alliance where the estimates were consistently more than 3SD above the national average.

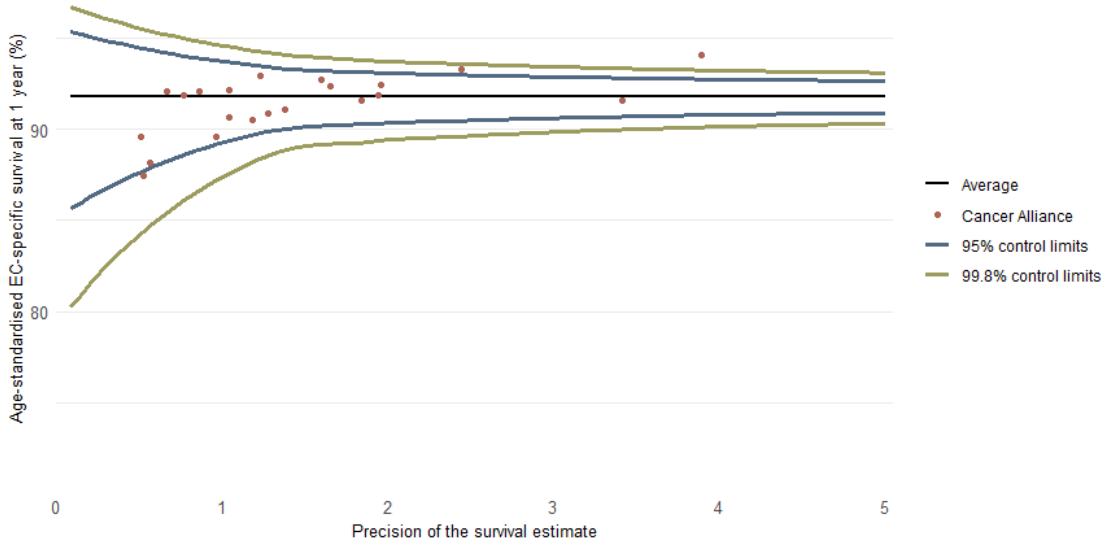
Cancer Alliance

Figure 50 : 1, 3 and 5-year age-standardised endometrial cancer-specific survival following a diagnosis of endometrial cancer in England from 2017-2019, by Cancer Alliance



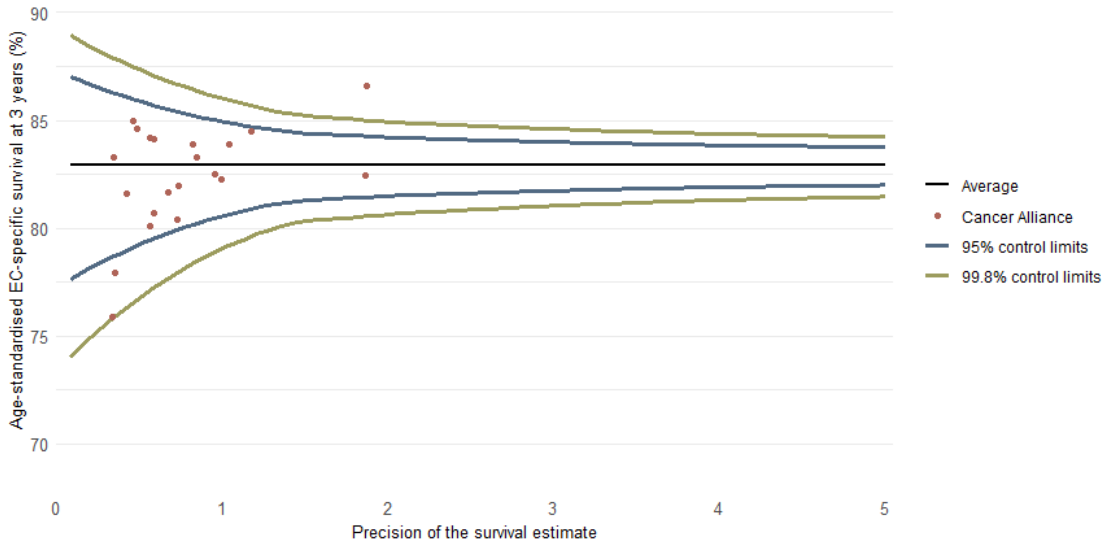
1-year endometrial cancer-specific survival

Figure 51 : 1-year age-standardised endometrial cancer-specific survival following a diagnosis of endometrial cancer in England from 2017-2019, by Cancer Alliance



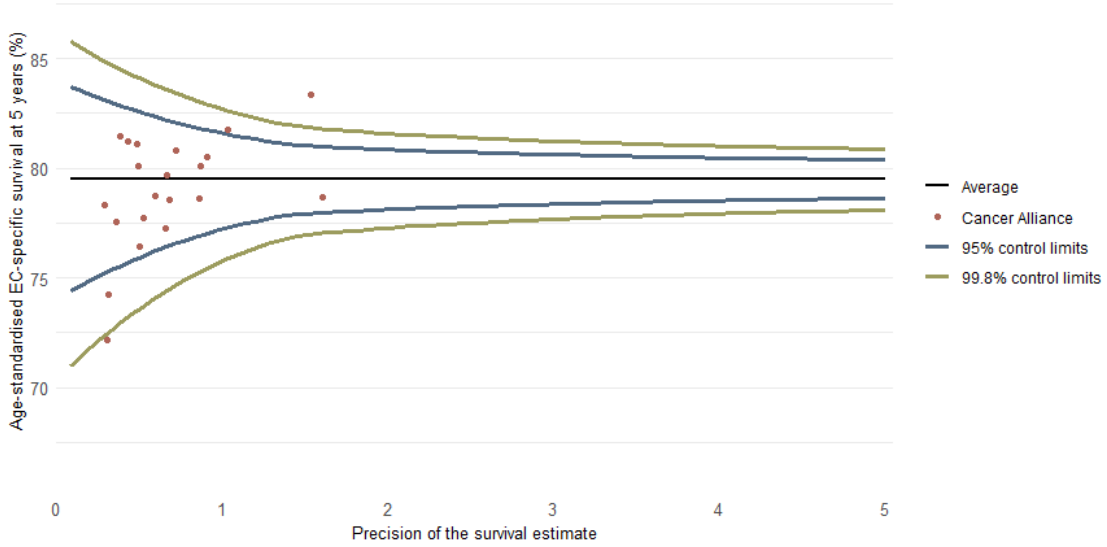
3-year endometrial cancer-specific survival

Figure 52 : 3-year age-standardised endometrial cancer-specific survival following a diagnosis of endometrial cancer in England from 2017-2019, by Cancer Alliance



5-year endometrial cancer-specific survival

Figure 53 : 5-year age-standardised endometrial cancer-specific survival following a diagnosis of endometrial cancer in England from 2017-2019, by Cancer Alliance



The table below provides the 1, 3 and 5-year age-standardised endometrial cancer-specific survival estimates plotted in the figures above.

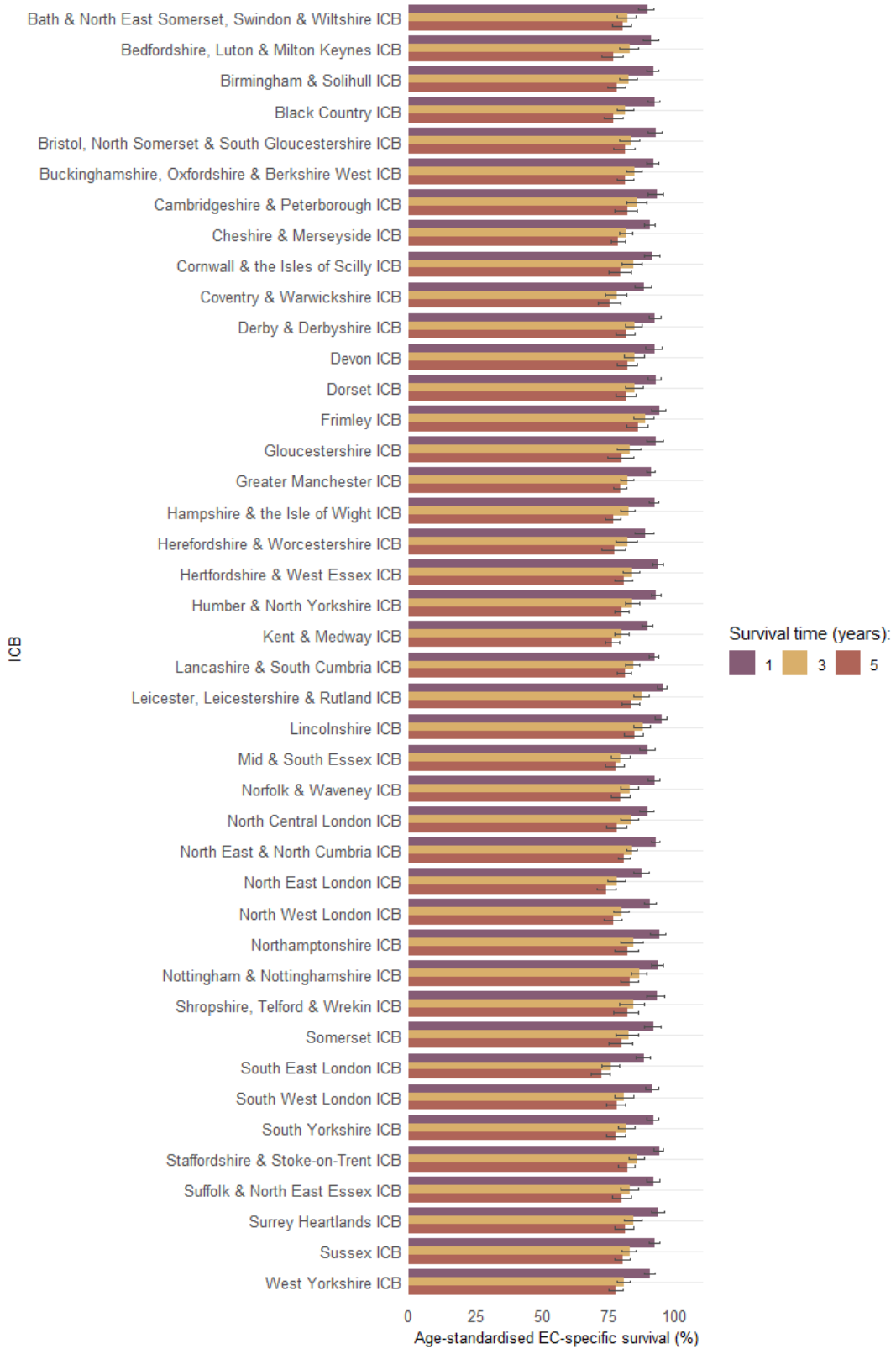
Table 11 : 1, 3, and 5-year age-standardised endometrial cancer-specific survival following a diagnosis of endometrial cancer from 2017 to 2019, by Cancer Alliance

Cancer Alliance	1-year EC Survival (95% CI)	3-year EC Survival (95% CI)	5-year EC Survival (95% CI)
Cheshire & Merseyside	90.5% (88.6% - 92.2%)	81.7% (79.1% - 83.9%)	78.7% (76.1% - 81.2%)
East Midlands	94.1% (93.0% - 95.0%)	86.6% (85.1% - 88.0%)	83.3% (81.7% - 84.8%)
East of England North	92.4% (90.9% - 93.7%)	83.9% (81.9% - 85.7%)	80.5% (78.3% - 82.5%)
East of England South	91.9% (90.3% - 93.2%)	82.2% (80.2% - 84.1%)	78.6% (76.4% - 80.7%)
Greater Manchester	90.9% (89.0% - 92.5%)	81.9% (79.5% - 84.1%)	79.7% (77.1% - 81.9%)
Humber & North Yorkshire	92.9% (90.9% - 94.5%)	84.1% (81.3% - 86.5%)	80.1% (77.1% - 82.7%)
Kent & Medway	89.6% (87.4% - 91.4%)	80.1% (77.3% - 82.6%)	76.4% (73.5% - 79.0%)

Cancer Alliance	1-year EC Survival (95% CI)	3-year EC Survival (95% CI)	5-year EC Survival (95% CI)
Lancashire & South Cumbria	92.2% (90.0% - 93.9%)	84.2% (81.3% - 86.6%)	81.1% (78.1% - 83.7%)
North Central London	89.6% (86.5% - 92.0%)	83.3% (79.6% - 86.3%)	78.3% (74.3% - 81.7%)
North East London	87.5% (84.5% - 89.9%)	78.0% (74.4% - 81.1%)	74.3% (70.6% - 77.6%)
North West & South West London	91.1% (89.2% - 92.6%)	80.4% (78.0% - 82.6%)	77.3% (74.7% - 79.6%)
Northern	92.8% (91.0% - 94.2%)	83.9% (81.6% - 85.9%)	80.8% (78.4% - 83.0%)
Peninsula	92.1% (89.3% - 94.2%)	84.6% (81.5% - 87.2%)	81.2% (78.0% - 84.0%)
Somerset, Wiltshire, Avon & Gloucestershire	91.6% (90.0% - 92.9%)	82.5% (80.4% - 84.4%)	80.1% (77.9% - 82.1%)
South East London	88.2% (85.3% - 90.6%)	75.9% (72.3% - 79.1%)	72.2% (68.4% - 75.6%)
South Yorkshire & Bassetlaw	92.1% (89.7% - 93.9%)	81.6% (78.3% - 84.4%)	77.6% (74.1% - 80.6%)
Surrey & Sussex	93.3% (91.9% - 94.4%)	84.5% (82.6% - 86.2%)	81.7% (79.7% - 83.6%)
Thames Valley	91.8% (89.3% - 93.8%)	85.0% (81.8% - 87.7%)	81.5% (78.0% - 84.4%)
Wessex	92.4% (90.7% - 93.8%)	83.3% (81.0% - 85.3%)	78.6% (76.1% - 80.8%)
West Midlands	91.6% (90.5% - 92.6%)	82.5% (81.0% - 83.9%)	78.7% (77.1% - 80.2%)
West Yorkshire & Harrogate	90.7% (88.5% - 92.4%)	80.7% (78.0% - 83.1%)	77.8% (74.9% - 80.3%)
Key: EC = Endometrial cancer; CI = Confidence interval.			

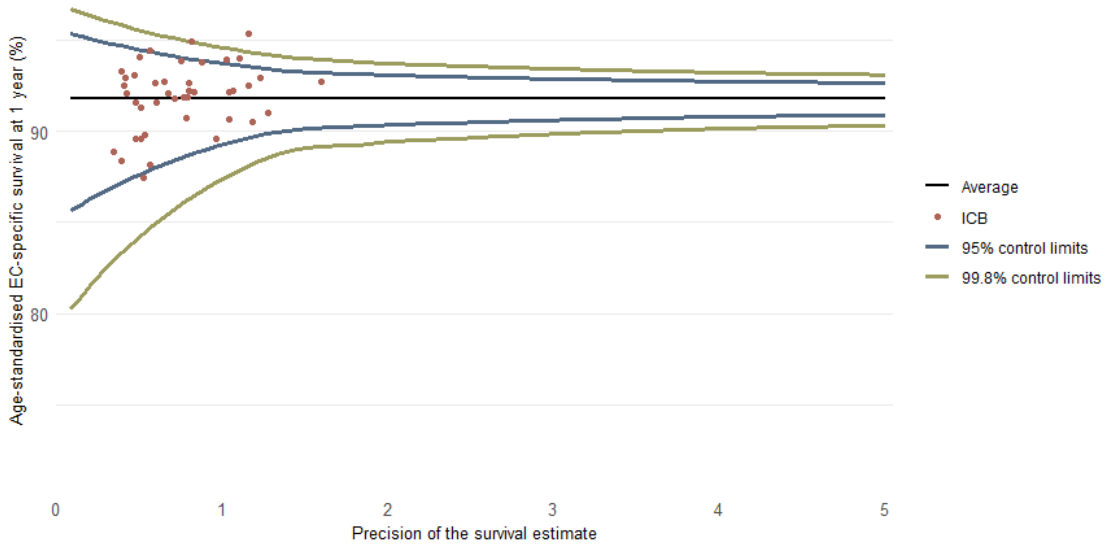
Integrated Care Board

Figure 54 : 1, 3 and 5-year age-standardised endometrial cancer-specific survival following a diagnosis of endometrial cancer in England from 2017-2019, by Integrated Care Board (ICB)



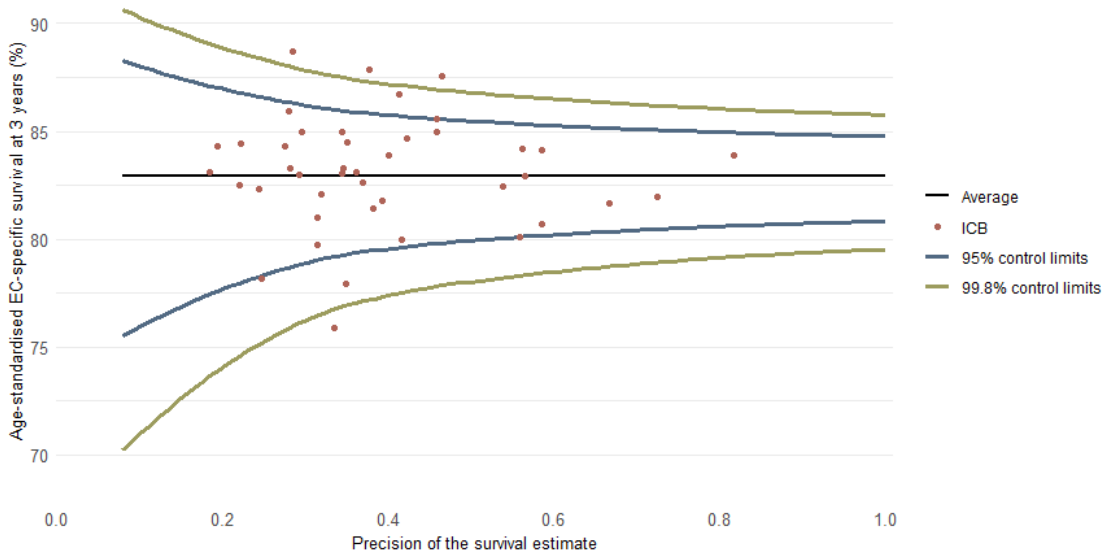
1-year endometrial cancer-specific survival

Figure 55 : 1-year age-standardised endometrial cancer-specific survival following a diagnosis of endometrial cancer in England from 2017-2019, by Integrated Care Board (ICB)



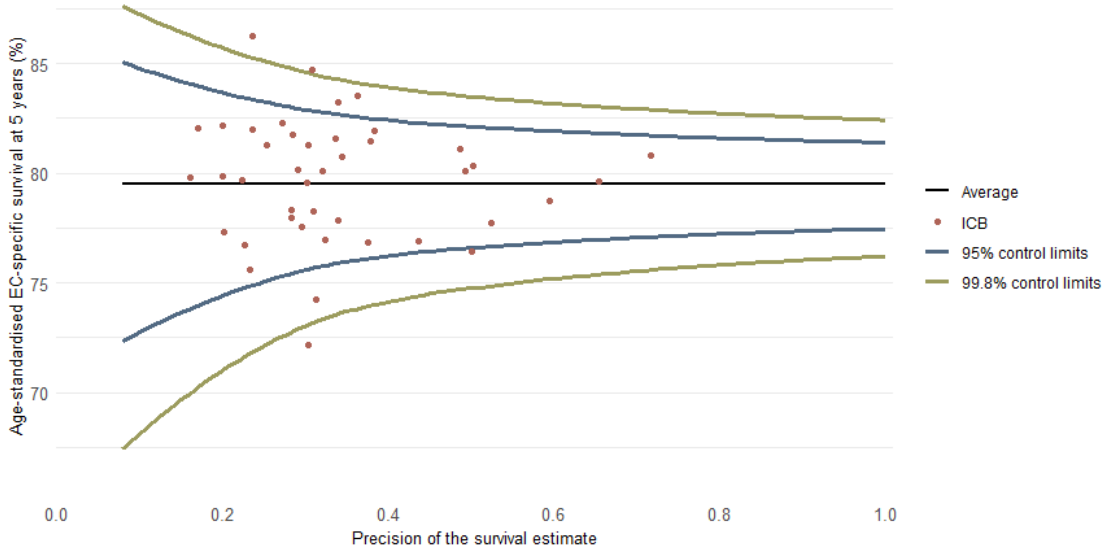
3-year endometrial cancer-specific survival

Figure 56 : 3-year age-standardised endometrial cancer-specific survival following a diagnosis of endometrial cancer in England from 2017-2019, by Integrated Care Board (ICB)



5-year endometrial cancer-specific survival

Figure 57 : 5-year age-standardised endometrial cancer-specific survival following a diagnosis of endometrial cancer in England from 2017-2019, by Integrated Care Board (ICB)



The estimates of 1, 3 and 5-year age-standardised endometrial cancer-specific survival, and 95% confidence intervals, plotted in the graphs above are provided in the table below as well as in the accompanying Excel workbook.

Table 12 : 1, 3 and 5-year age-standardised endometrial cancer-specific survival following a diagnosis of endometrial cancer from 2017 to 2019, by Integrated Care Board (ICB)

ICB	1-year EC Survival (95% CI)	3-year EC Survival (95% CI)	5-year EC Survival (95% CI)
Bath & North East Somerset, Swindon & Wiltshire ICB	89.6% (86.3% - 92.1%)	82.1% (78.3% - 85.3%)	80.2% (76.2% - 83.5%)
Bedfordshire, Luton & Milton Keynes ICB	91.3% (88.1% - 93.7%)	83.0% (79.0% - 86.3%)	76.7% (72.3% - 80.5%)
Birmingham & Solihull ICB	91.8% (89.1% - 93.8%)	82.6% (79.1% - 85.6%)	78.2% (74.5% - 81.5%)
Black Country ICB	92.2% (89.7% - 94.2%)	81.4% (78.0% - 84.4%)	77.0% (73.3% - 80.2%)
Bristol, North Somerset & South Gloucestershire ICB	92.7% (89.6% - 94.8%)	83.3% (79.2% - 86.6%)	81.3% (77.0% - 84.8%)
Buckinghamshire, Oxfordshire & Berkshire West ICB	91.8% (89.3% - 93.8%)	85.0% (81.8% - 87.7%)	81.5% (78.0% - 84.4%)

ICB	1-year EC Survival (95% CI)	3-year EC Survival (95% CI)	5-year EC Survival (95% CI)
Cambridgeshire & Peterborough ICB	93.1% (89.6% - 95.4%)	85.9% (81.8% - 89.2%)	82.0% (77.5% - 85.7%)
Cheshire & Merseyside ICB	90.5% (88.6% - 92.2%)	81.7% (79.1% - 83.9%)	78.7% (76.1% - 81.2%)
Cornwall & the Isles of Scilly ICB	91.6% (88.2% - 94.0%)	84.3% (80.2% - 87.7%)	79.7% (75.2% - 83.5%)
Coventry & Warwickshire ICB	88.4% (84.8% - 91.1%)	78.2% (73.9% - 81.8%)	75.6% (71.3% - 79.4%)
Derby & Derbyshire ICB	92.6% (90.1% - 94.5%)	84.7% (81.4% - 87.4%)	81.6% (77.9% - 84.7%)
Devon ICB	92.5% (88.8% - 95.1%)	85.0% (81.0% - 88.2%)	82.3% (78.2% - 85.7%)
Dorset ICB	92.7% (89.9% - 94.8%)	84.9% (81.2% - 88.0%)	81.8% (77.7% - 85.1%)
Frimley ICB	94.4% (91.1% - 96.5%)	88.7% (84.4% - 91.8%)	86.2% (81.6% - 89.8%)
Gloucestershire ICB	92.9% (89.1% - 95.4%)	83.1% (77.9% - 87.1%)	79.8% (74.4% - 84.2%)
Greater Manchester ICB	91.0% (89.1% - 92.6%)	82.0% (79.5% - 84.1%)	79.6% (77.1% - 81.9%)
Hampshire & the Isle of Wight ICB	92.2% (90.1% - 93.9%)	82.4% (79.6% - 84.9%)	76.9% (73.7% - 79.7%)
Herefordshire & Worcestershire ICB	88.9% (85.0% - 91.8%)	82.3% (77.9% - 85.9%)	77.3% (72.6% - 81.3%)
Hertfordshire & West Essex ICB	93.9% (91.7% - 95.6%)	83.9% (80.5% - 86.7%)	80.8% (77.2% - 83.9%)
Humber & North Yorkshire ICB	92.9% (90.9% - 94.5%)	84.1% (81.3% - 86.5%)	80.1% (77.1% - 82.7%)
Kent & Medway ICB	89.6% (87.4% - 91.4%)	80.1% (77.3% - 82.6%)	76.4% (73.5% - 79.0%)
Lancashire & South Cumbria ICB	92.2% (90.0% - 93.9%)	84.2% (81.3% - 86.6%)	81.1% (78.1% - 83.7%)
Leicester, Leicestershire & Rutland ICB	95.4% (93.2% - 96.9%)	87.6% (84.4% - 90.2%)	83.5% (80.0% - 86.5%)
Lincolnshire ICB	94.9% (92.2% - 96.7%)	87.8% (84.2% - 90.7%)	84.7% (80.8% - 87.9%)
Mid & South Essex ICB	89.8% (86.8% - 92.2%)	79.7% (75.9% - 83.0%)	77.6% (73.7% - 80.9%)

ICB	1-year EC Survival (95% CI)	3-year EC Survival (95% CI)	5-year EC Survival (95% CI)
Norfolk & Waveney ICB	92.2% (89.7% - 94.1%)	83.0% (79.4% - 86.1%)	79.6% (75.7% - 82.9%)
North Central London ICB	89.6% (86.5% - 92.0%)	83.3% (79.6% - 86.3%)	78.3% (74.3% - 81.7%)
North East & North Cumbria ICB	92.8% (91.0% - 94.2%)	83.9% (81.6% - 85.9%)	80.8% (78.4% - 83.0%)
North East London ICB	87.5% (84.5% - 89.9%)	78.0% (74.4% - 81.1%)	74.3% (70.6% - 77.6%)
North West London ICB	90.7% (88.2% - 92.7%)	80.0% (76.7% - 82.8%)	76.8% (73.4% - 79.9%)
Northamptonshire ICB	94.0% (90.6% - 96.3%)	84.4% (79.7% - 88.1%)	82.2% (77.3% - 86.1%)
Nottingham & Nottinghamshire ICB	93.8% (91.3% - 95.6%)	86.7% (83.3% - 89.5%)	83.2% (79.5% - 86.3%)
Shropshire, Telford & Wrekin ICB	93.3% (89.3% - 95.8%)	84.3% (79.2% - 88.2%)	82.1% (76.7% - 86.3%)
Somerset ICB	92.1% (88.4% - 94.6%)	82.5% (77.9% - 86.3%)	79.8% (75.0% - 83.8%)
South East London ICB	88.2% (85.3% - 90.6%)	75.9% (72.3% - 79.1%)	72.2% (68.4% - 75.6%)
South West London ICB	91.6% (88.7% - 93.8%)	81.0% (77.2% - 84.2%)	78.0% (74.0% - 81.4%)
South Yorkshire ICB	91.9% (89.3% - 93.8%)	81.8% (78.4% - 84.7%)	77.9% (74.3% - 81.0%)
Staffordshire & Stoke-on-Trent ICB	94.0% (91.8% - 95.6%)	85.6% (82.4% - 88.2%)	82.0% (78.5% - 84.9%)
Suffolk & North East Essex ICB	92.1% (89.3% - 94.1%)	83.1% (79.6% - 86.1%)	80.1% (76.3% - 83.3%)
Surrey Heartlands ICB	93.9% (91.2% - 95.8%)	84.5% (80.9% - 87.5%)	81.3% (77.4% - 84.6%)
Sussex ICB	92.5% (90.5% - 94.1%)	82.9% (80.1% - 85.4%)	80.4% (77.4% - 83.0%)
West Yorkshire ICB	90.7% (88.5% - 92.4%)	80.7% (78.0% - 83.1%)	77.8% (74.9% - 80.3%)
Key: Endometrial cancer; CI = Confidence interval.			

8. Appendices

Appendix 1: Data sources and follow-up

The National Cancer Registration Dataset (NCRD) was used to select people with a registered diagnosis of endometrial cancer where the initial diagnosis occurred between 1st January 2017 and 31st December 2019. These records were used to calculate the incidence of endometrial cancer.

ONS population numbers for the same time period (2017-2019) were used to provide the denominators for the calculation of incidence rates.

For mortality and survival estimation, follow-up for each person extended to the earliest of death or the end of the study period determined by data coverage at the time of analysis. Death certificate and vital status data in the NCRD were used for this, with information available up to August 2024.

The Cancer Analysis System (CAS) is the database system maintained and used by the National Cancer Registration and Analysis Service, containing data on all tumours registered in England. Versions of the CAS are indicated by "AV" with a numerical indication of the date of the data. Data in this report were derived from the CAS. Further documentation can be found in the Data Resource Profile: National Cancer Registration Dataset in England which contains information about the registry dataset used for this report. Available from https://doi.org/10.1093/ije/dyz076.

Appendix 2: Cohort definitions

Defining endometrial cancer

Cases were identified according to the following ICD-10 codes:

- C54.1
- Any of C54.0, C54.3, C54.8 or C54.9, with an epithelial, carcinosarcoma or mullerian mixed tumour morphology (identified by morphology codes 8010-8012, 8014-8035, 8041-8046, 8050-8148, 8160-8231, 8250-8530, 8541, 8550-8576, 8959, 8982, 9110, 8013, 8154, 8246, 8980, 8981 or 8950)
- C55 with a carcinosarcoma or mullerian mixed tumour morphology (identified by morphology codes 8980, 8981 or 8950).
-

Morphology codes were classified according to the International Classification of Diseases for Oncology, 3rd Edition, first revision.

Cases with the following morphology codes were considered to be uterine tumours and therefore excluded:

- Adenosarcoma - 8933;
- Endometrial Stromal Sarcoma - 8930, 8931, 8932, 8935;
- Leiomyosarcoma - 8890-8898;
- Miscellaneous Sarcoma - 8381, 8806-8858, 8900-8921, 8936, 8961-8974, 9120-9363, 9480-9989, 9364, 9365;
- Undifferentiated sarcoma - 8800-8805.
-

Endometrial tumours were only considered if diagnosed within female patients aged 18 years or over who were resident in England and diagnosed between 01 January 2017 and 31st December 2019.

Within each patient, the earliest relevant primary tumour documented between 01 January 2017 and 31st December 2019 was included.

The definition above was developed to capture all endometrial cancers.

Defining endometrial cancer for the incidence analysis

For the incidence analysis, the endometrial cancers were selected if they met the criteria outlined above.

Defining endometrial cancer for the mortality analysis

As death certificates do not include cancer morphology information, the definition of death from endometrial cancer was defined using only the following ICD-10 codes: C54.1 or C55. Data on mortality from endometrial cancer was extracted from the NCRD alongside causes of death.

The definition of endometrial cancer diagnosis used for cohort mortality statistics (i.e. among the cohort of women diagnosed with endometrial cancer in England) from 2017 to 2019 in this report was the same as that defined for the incidence analysis (described above).

Defining endometrial cancer for the survival analysis

The definition of endometrial cancer diagnosis used for the survival analyses was the same as that defined for the incidence analysis (described above).

Additionally, the following selection criteria were then applied to better align with official national statistics:
Include

1. Patients aged between 18-99 years (inclusive)
2. A tumour with invasive, primary, and malignant behaviour code (3)

Exclude

1. Death certificate only (DCO) registrations
2. Missing or imputed gender, date of diagnosis, date of birth or age information

Appendix 3: Geographies

Geographies were defined according to the borders defined on 1st July 2022. Geographic variation was analysed at the Cancer Alliance and Integrated Care Board levels according to borders defined in 2022.

Cancer Alliances are geographic areas that bring together clinicians and managers from different trusts and other health and social care organisations with the aim of coordinating the diagnosis and treatment of people with cancer in the local area.
Established in 2022, Integrated Care Boards (ICBs) are statutory organisations that bring the NHS together at a local level to improve population health and establish shared strategic priorities within the NHS. England is divided into 42 ICBs.
Each patient was assigned to a Cancer Alliance and ICB according to the LSOA code provided for the patient on the date of their endometrial cancer diagnosis.

Appendix 4: Cancer stage

Stage presented in this report is the FIGO 2009 stage at diagnosis of the tumour. Tumour stages are numbered from 1 to 4, with a higher value indicating more advanced disease. If no staging data were available at the time of analysis, the corresponding tumour was defined as 'Unknown'.

Appendix 5: Tumour morphology groups

Assignment of endometrial tumours

Each tumour was assigned to distinct morphology groups based on the following criteria:

- Endometrioid Adenocarcinoma: 8380, 8382, 8383, 8430, 8470, 8471, 8560, 8570;
- Clear Cell: 8310, 8443;
- Carcinosarcoma: 8033, 8980, 8981, 8950;
- Serous: 8050, 8441, 8442, 8450, 8451, 8460, 8461, 9014;
- Undifferentiated/differentiated Carcinoma: 8020-8022, 8030-8032, 8034, 8035;
- Miscellaneous and Unspecified: 8000-8005, 8580-8790, 8860-8881, 8940, 8941, 8959, 8960, 8983, 9010-9013, 9016-9105, 9370-9474;
- Other Classified & Unclassified Carcinoma: 8010-8015, 8036-8046, 8051-8131, 8140-8141, 8190-8211, 8230-8231, 8255-8263, 8323, 8384, 8142-8180, 8212-8221, 8240-8254, 8264-8300, 8311-8322, 8324-8375, 8390-8420, 8440, 8452-8459, 8472, 8480-8490, 8500-8508, 8510, 8512-8543, 8550, 8551, 8561, 8562, 8571-8576, 9000, 9015, 9110;

Assignment of uterine tumours

Wider analysis of both endometrial and uterine tumour morphologies additionally assigned uterine tumours to distinct morphology groups as follows:

- Adenosarcoma: 8933;
- Endometrial Stromal Sarcoma: 8930, 8931, 8932, 8935;
- Leiomyosarcoma: 8890-8898;
- Miscellaneous Sarcoma: 8381, 8806-8858, 8900-8921, 8936, 8961-8974, 9120-9363, 9480-9989, 9364, 9365;
- Undifferentiated sarcoma: 8800-8805.

Appendix 6: Survival methodology

Net cancer survival rates (i.e., estimated survival rates as if cancer were the only possible cause of death) were calculated in both a relative survival framework using a complete approach and a cause-specific approach. NDRS Cancer Survival SOP v11_0 was followed with analysis carried out in R. Age-standardised rates were calculated to enable comparison across patient groups, particularly those defined based on geography. The International Cancer Survival Standard (ICSS) weights were used for this.

ICSS weights[9] are a set of internationally recognised weights that standardise survival rates by applying a fixed age distribution across populations. These weights reflect the typical age distribution of cancer patients across different types of cancer and geographical regions. By using ICSS weights, the survival estimates become more comparable between populations with differing age structures, reducing the potential bias introduced by varying age distributions within patient groups. This ensures that the comparisons reflect differences in cancer outcomes rather than demographic differences in the populations being studied.

Follow-up for each person included in the survival analysis extended from the date of diagnosis to the earliest of death or the end of the study period. The end of the study period was defined as the end of August 2024, as determined by data coverage at the time of analysis.

[9] Corazziari I, Quinn M, Capocaccia R. Standard cancer patient population for age standardising survival ratios. Eur J Cancer. 2004;40(15):2307–316. doi:10.1016/j.ejca.2004.07.002. Also weights available from: https://eu5results.iss.it/docs/International_Standards.pdf