Ovarian cancer

1993-2022

(Including fallopian tube)
(ICD10 codes: C56-C57.4)

Northern Ireland Cancer Registry, 2025

An official statistics publication

Contents

This report includes information on incidence of ovarian cancer (including fallopian tube) as recorded by the Northern Ireland Cancer Registry (NICR). Incidence data is available annually from 1993 to 2022, however in order to provide stable and robust figures the majority of information presented in this report is based upon the average number of cases diagnosed in the last five years.

Methodology

The methodology used in producing the statistics presented in this report, including details of data sources, classifications and coding are available in the accompanying methodology report available at: www.qub.ac.uk/research-centres/nicr/CancerInformation/official-statistics.

Official statistics

The incidence, prevalence and survival statistics in this publication are designated as official statistics signifying that they comply with the Code of Practice for Official Statistics. Further information on this code is available at code.statisticsauthority.gov.uk.

Cancer mortality data

The NI Statistics and Research Agency (NISRA) is the official statistics provider of cancer mortality data in Northern Ireland. However, for completeness, data on cancer mortality is also provided in this report. While analysis is conducted by NICR staff, the original data is provided courtesy of the General Register Office (NI) via the Department of Health.

Reuse of information

The information in this report (and any supplementary material) is available for reuse free of charge and without the need to contact NICR. However, we request that NICR is acknowledged as the source of any reused information. The following reference is recommended:

Northern Ireland Cancer Registry 2025. Ovarian cancer: 1993-2022. Available at: www.qub.ac.uk/research-centres/nicr

Further information

Further information is available at: www.qub.ac.uk/research-centres/nicr
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Acknowledgements

The Northern Ireland Cancer Registry (NICR) uses data provided by patients and collected by the health service as part of their care and support.
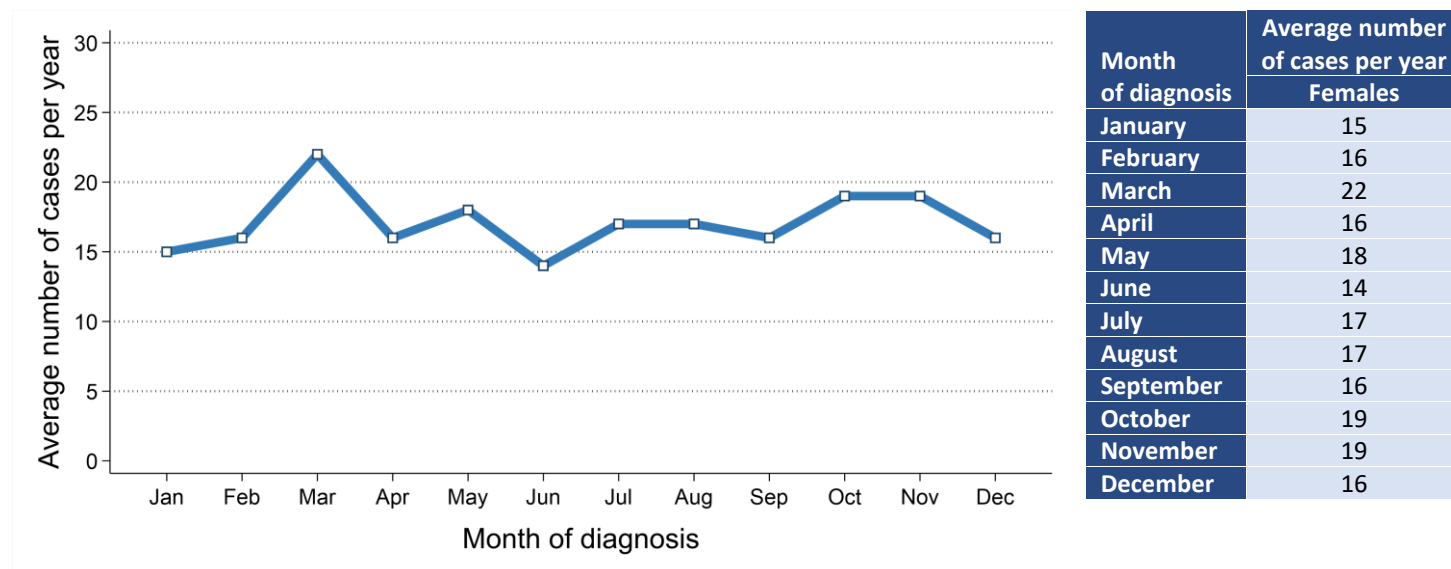
NICR is funded by the Public Health Agency and is based in Queen's University, Belfast.
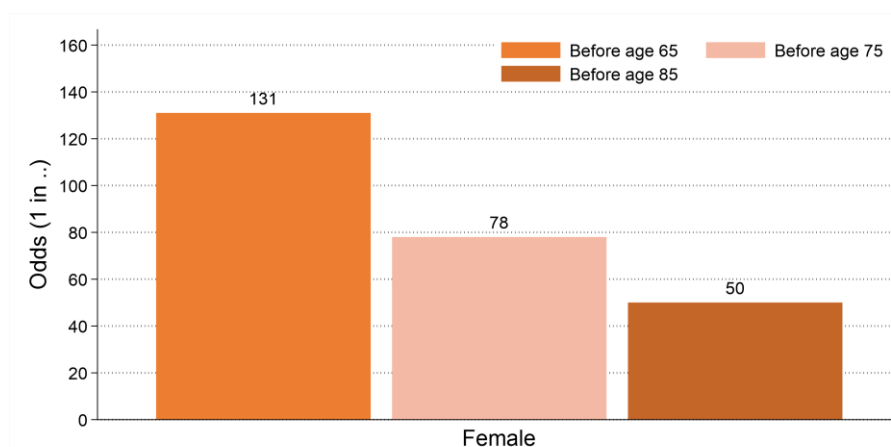
INCIDENCE

- There were 1,019 cases of ovarian cancer (including fallopian tube) diagnosed during 2018-2022 in Northern Ireland. On average this was 204 cases per year.
- The most common diagnosis month during 2018-2022 was March with 22 cases per year.

Figure 1: Average number of cases of ovarian cancer per year in 2018-2022 by month of diagnosis

Month of diagnosis	Average number of cases per year Females
January	15
February	16
March	22
April	16
May	18
June	14
July	17
August	17
September	16
October	19
November	19
December	16

- Ovarian cancer made up 4.0% of all female cancer cases (excluding non-melanoma skin cancer).
- The ovarian cancer incidence rate was 21.1 cases per 100,000 females.
- The odds of developing ovarian cancer before age 85 was 1 in 50.

*Figure 2: Odds of developing ovarian cancer in 2018-2022*

INCIDENCE BY AGE

- The median age of females diagnosed with ovarian cancer during 2018-2022 was 66 years.
- The risk of being diagnosed with ovarian cancer varied by age, with 30.5% of women diagnosed with ovarian cancer aged 75 and over at diagnosis.
- In contrast, 26.4% of women diagnosed with ovarian cancer were aged 0 to 54 at diagnosis.

Figure 3: Average number of cases of ovarian cancer diagnosed per year in 2018-2022 by age at diagnosis
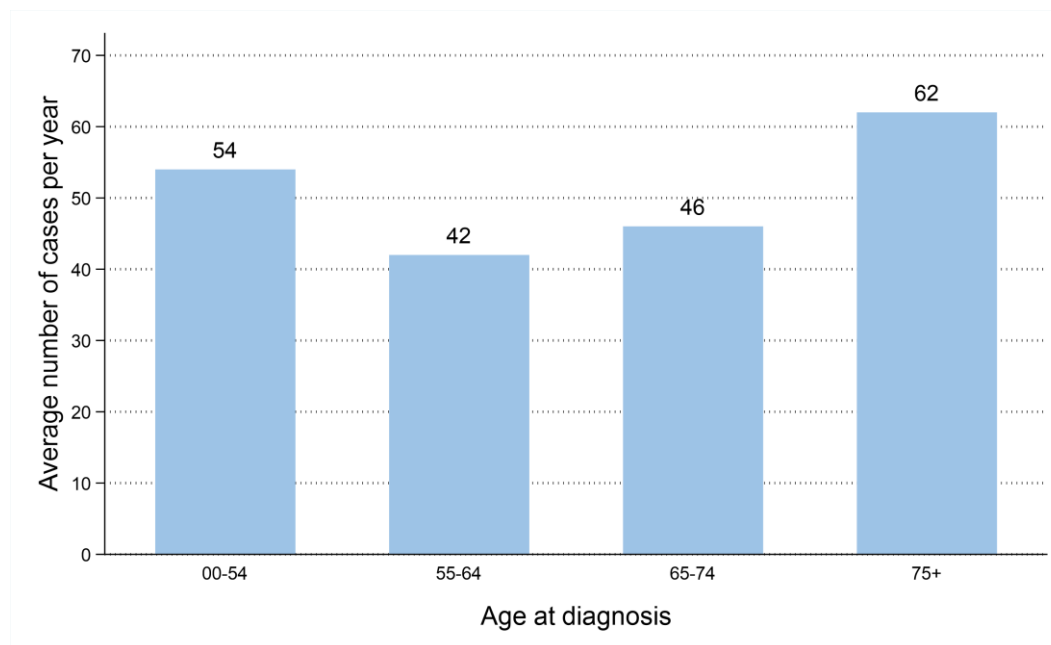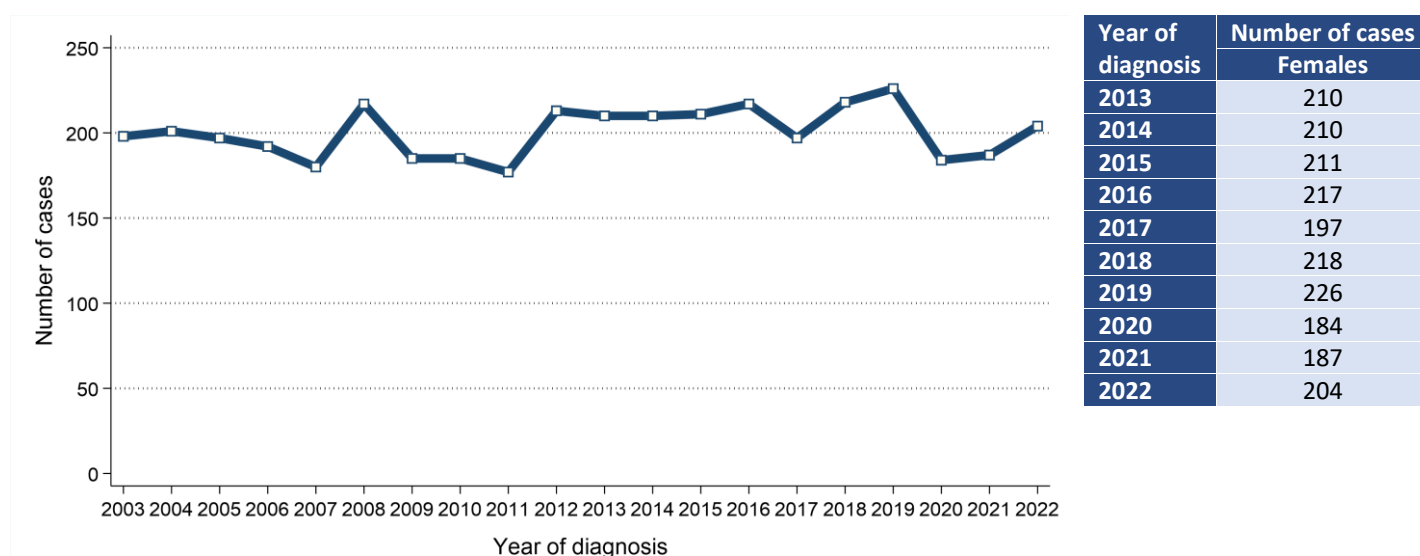

*Figure 4: Age-specific incidence rates of ovarian cancer in 2018-2022*
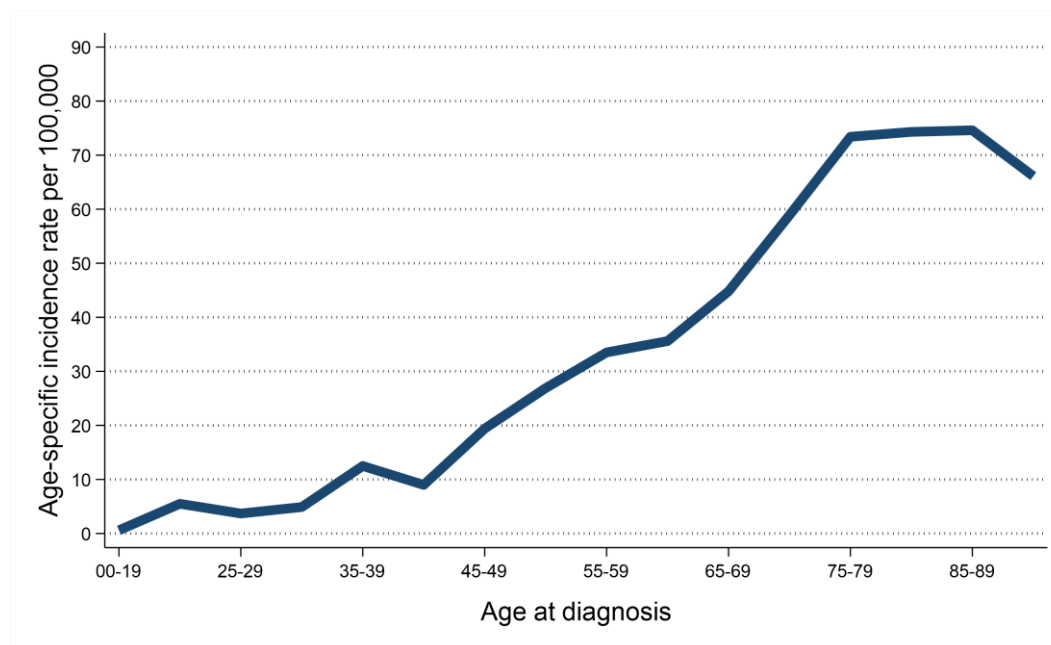
INCIDENCE TRENDS

- The number of cases of ovarian cancer among females decreased between 2013-2017 and 2018-2022 by 2.5% from 1,045 cases (209 cases per year) to 1,019 cases (204 cases per year).

Figure 5: Trends in number of cases of ovarian cancer diagnosed from 2003 to 2022

Year of diagnosis	Number of cases Females
2013	210
2014	210
2015	211
2016	217
2017	197
2018	218
2019	226
2020	184
2021	187
2022	204

- Female age-standardised ovarian cancer incidence rates decreased between 2013-2017 and 2018-2022 by 8.7% from 24.2 to 22.1 cases per 100,000 females. This change was not statistically significant.

Figure 6: Trends in incidence rates of ovarian cancer from 2003 to 2022
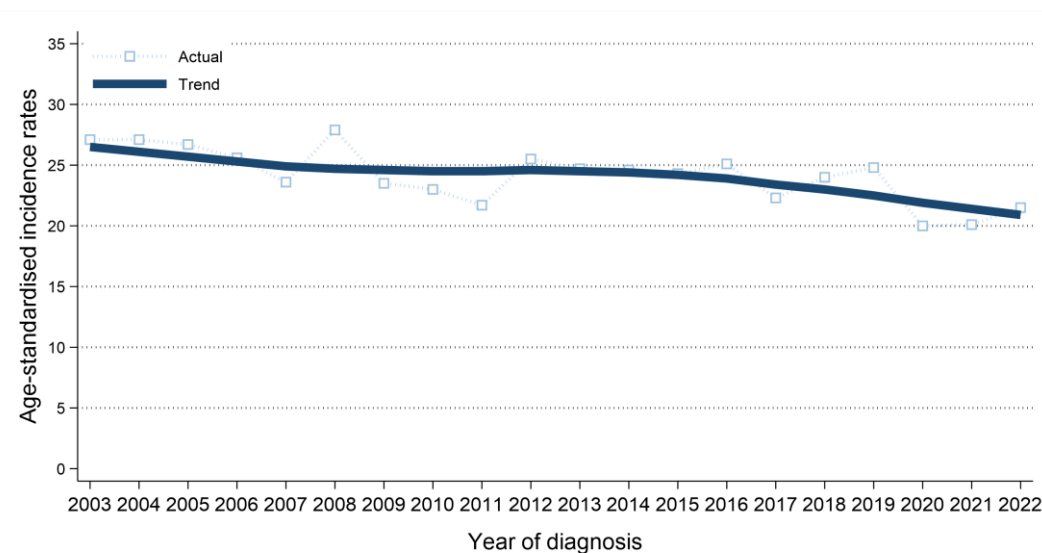
Age-standardised incidence rates illustrate the change in the number of cases within a population of a fixed size and age structure (2013 European Standard).

They thus represent changes other than those caused by population growth and/or ageing.

Trends can also be influenced by changes in how cancer is classified and coded. (e.g. the move from ICD-0-2 to ICD-0-3 in 2019).
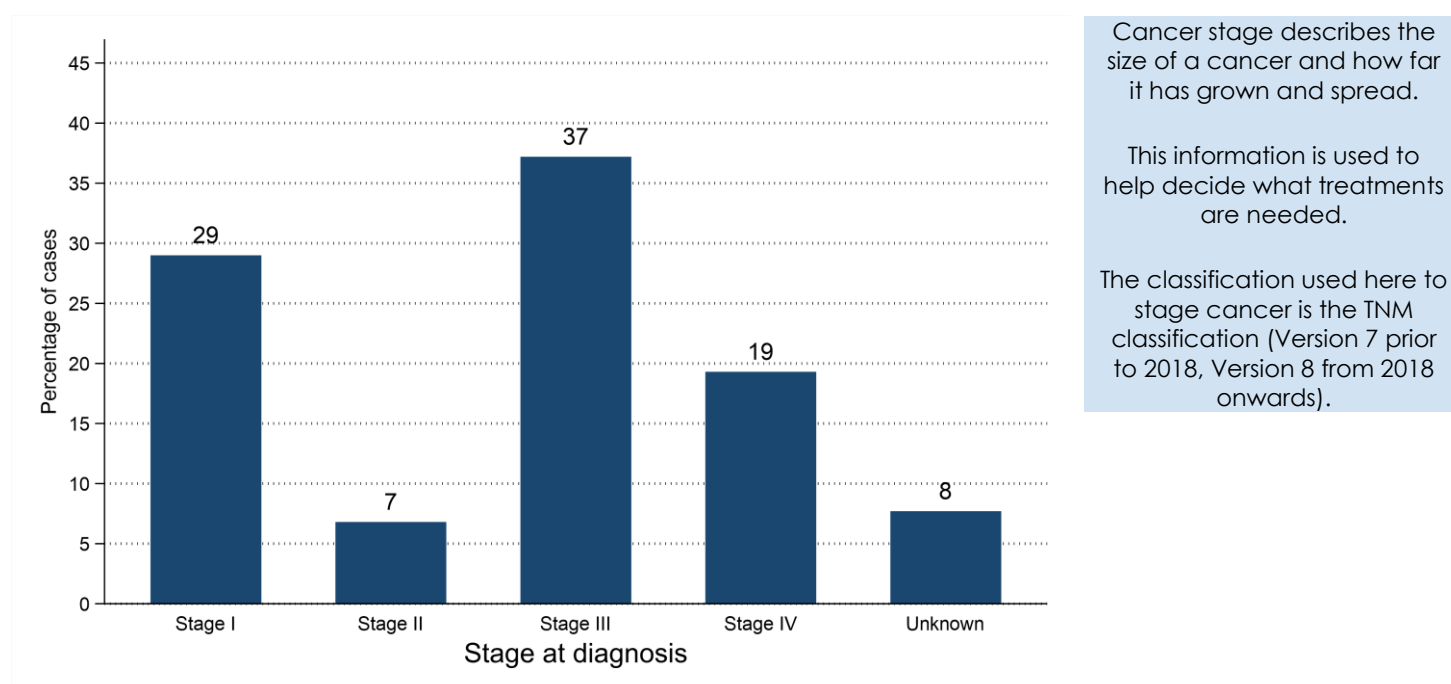
INCIDENCE BY STAGE AT DIAGNOSIS

- During 2018-2022 92.3% of ovarian cancer cases had a stage assigned.

- 29.0% of ovarian cancer cases were diagnosed at Stage I. (31.5% of staged cases)

- 19.3% of ovarian cancer cases were diagnosed at Stage IV. (20.9% of staged cases)

Table 1: Number of cases of ovarian cancer diagnosed in 2018-2022 by stage at diagnosis

Stage at diagnosis	Female	
	Total cases in period	Average cases per year
All stages	1,019	204
	.	.
Stage I	296	59
Stage II	69	14
Stage III	379	76
Stage IV	197	39
Unknown	78	16

Figure 7: Proportion of cases of ovarian cancer diagnosed in 2018-2022 by stage at diagnosis

Cancer stage describes the size of a cancer and how far it has grown and spread.

This information is used to help decide what treatments are needed.

The classification used here to stage cancer is the TNM classification (Version 7 prior to 2018, Version 8 from 2018 onwards).
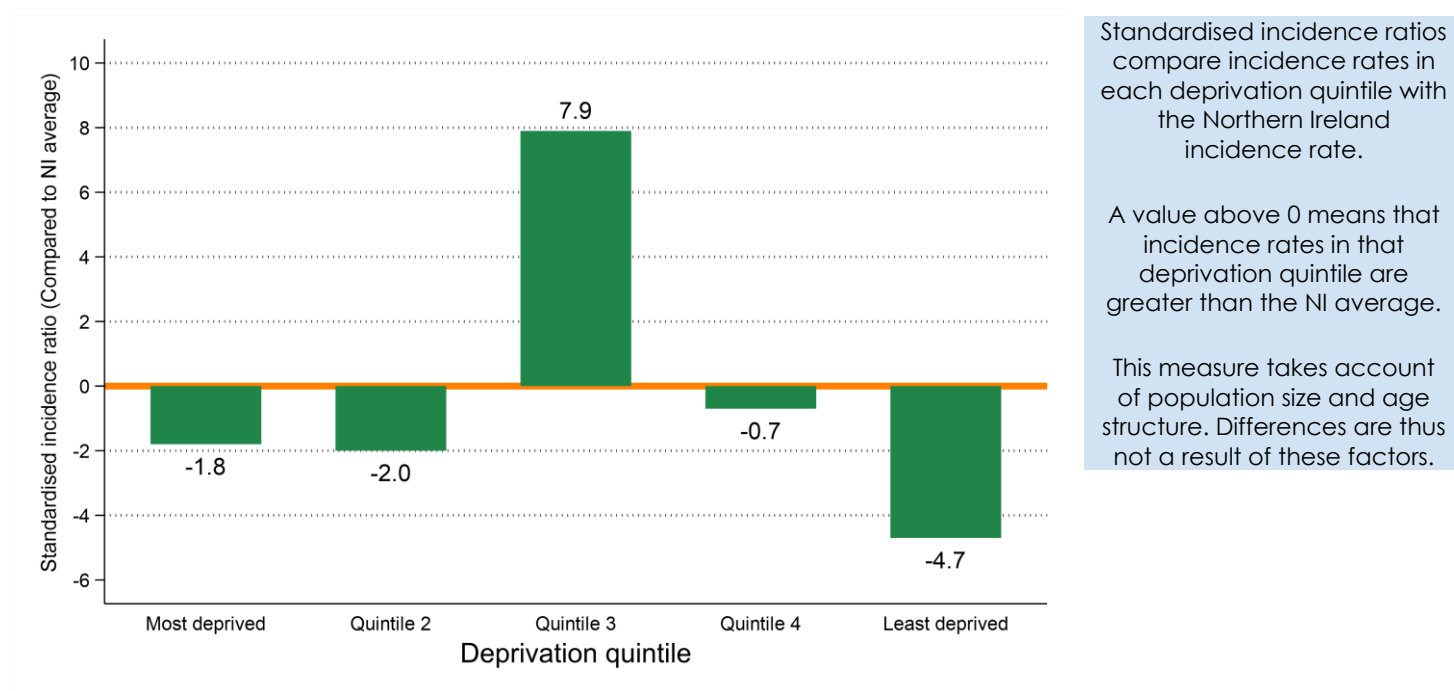
INCIDENCE BY DEPRIVATION

- The number of cases of ovarian cancer diagnosed during 2018-2022 varied in each deprivation quintile due to variations in population size and age.
- After accounting for these factors, incidence rates:
  - in the most socio-economically deprived areas did not vary significantly from the NI average.
  - in the least socio-economically deprived areas did not vary significantly from the NI average.

Table 2: Number of cases of ovarian cancer diagnosed in 2018-2022 by deprivation quintile

Deprivation quintile	Female	
	Total cases in period	Average cases per year
Northern Ireland	**1,019**	**204**
	.	.
Most deprived	169	34
Quintile 2	200	40
Quintile 3	229	46
Quintile 4	214	43
Least deprived	205	41
Unknown	2	0

Figure 8: Standardised incidence ratio comparing deprivation quintile to Northern Ireland for ovarian cancer diagnosed in 2018-2022

Standardised incidence ratios compare incidence rates in each deprivation quintile with the Northern Ireland incidence rate.

A value above 0 means that incidence rates in that deprivation quintile are greater than the NI average.

This measure takes account of population size and age structure. Differences are thus not a result of these factors.

INCIDENCE BY HEALTH AND SOCIAL CARE TRUST

- The number of cases of ovarian cancer diagnosed during 2018-2022 varied in each Health and Social Care Trust due to variations in population size and age.
- After accounting for these factors, incidence rates:
  - in Belfast HSCT did not vary significantly from the NI average.
  - in Northern HSCT did not vary significantly from the NI average.
  - in South Eastern HSCT did not vary significantly from the NI average.
  - in Southern HSCT did not vary significantly from the NI average.
  - in Western HSCT did not vary significantly from the NI average.

Table 3: Number of cases of ovarian cancer diagnosed in 2018-2022 by Health and Social Care Trust

Health and Social Care Trust	Female	
	Total cases in period	Average cases per year
Northern Ireland	**1,019**	**204**
	.	.
Belfast HSCT	188	38
Northern HSCT	257	51
South Eastern HSCT	216	43
Southern HSCT	199	40
Western HSCT	157	31
Unknown	2	0

Figure 9: Standardised incidence ratio comparing Health and Social Care Trust to Northern Ireland for ovarian cancer diagnosed in 2018-2022
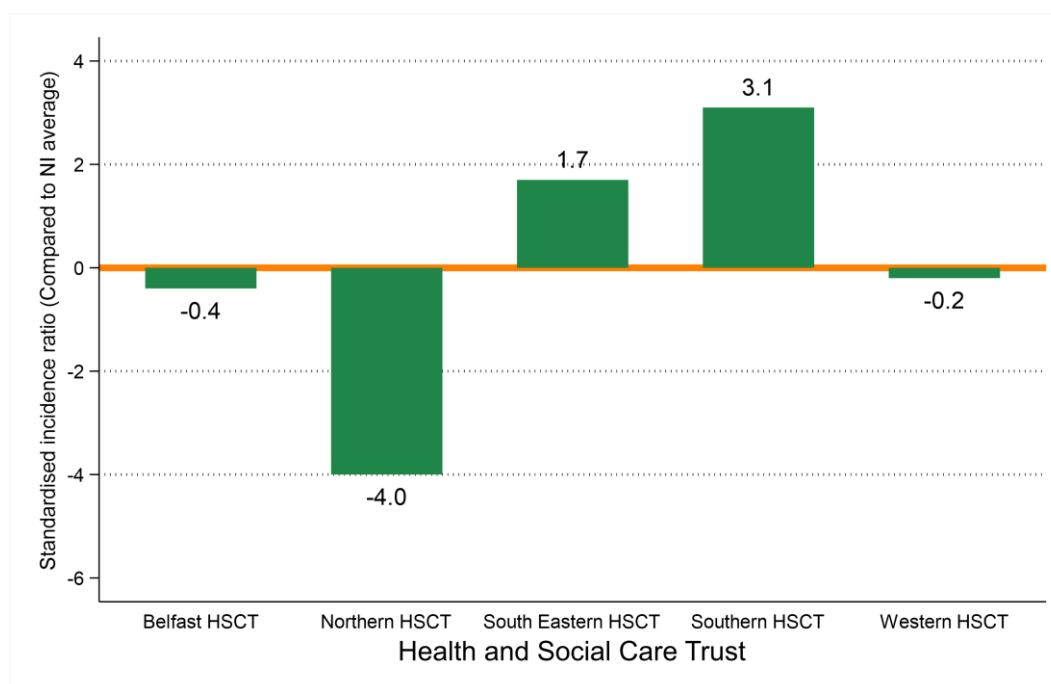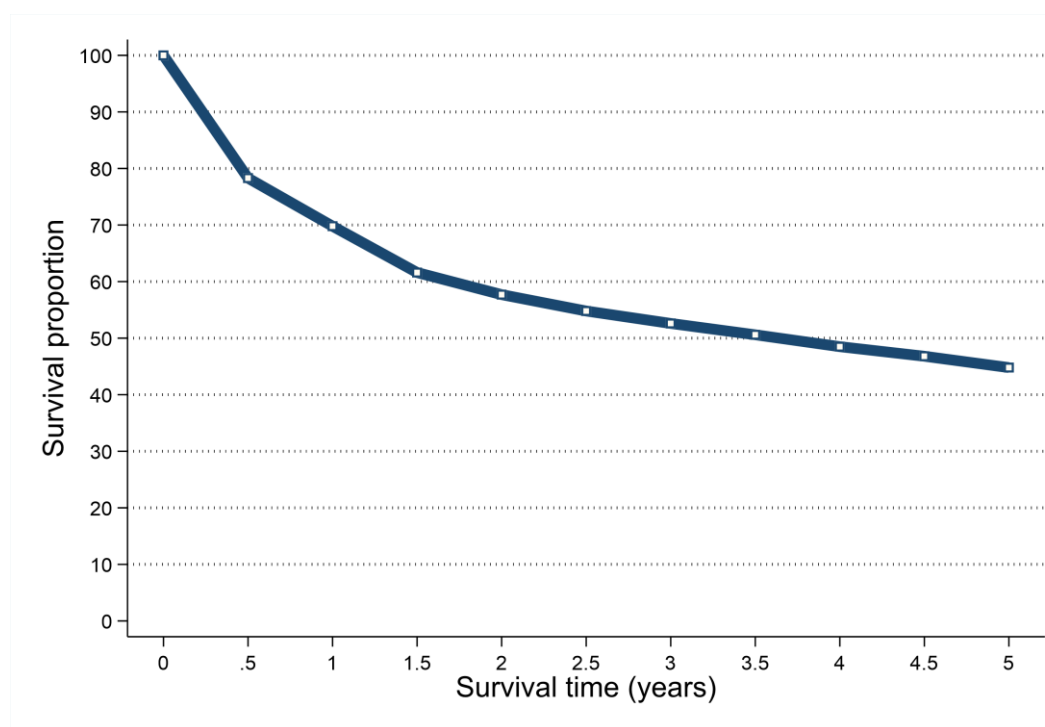
SURVIVAL

- 71.2% of patients were alive one year and 45.3% were alive five years from an ovarian cancer diagnosis in 2013-2017. (observed survival)
- Age-standardised net survival (ASNS), which removes the effect of deaths from causes unrelated to cancer, was 69.8% one year and 44.8% five years from an ovarian cancer diagnosis in 2013-2017.

Table 4: Survival from ovarian cancer for patients diagnosed in 2013-2017

Time since diagnosis	Female	
	Observed survival	Age-standardised net survival
6 months	79.7%	78.3%
One year	71.2%	69.8%
Two years	59.2%	57.7%
Five years	45.3%	44.8%

Figure 10: Age-standardised net survival from ovarian cancer for patients diagnosed in 2013-2017

Observed survival examines the time between diagnosis and death from any cause, however, due to the inclusion of non-cancer deaths it may not fully reflect how changes in cancer care impact survival from cancer.

Age-standardised net survival provides an estimate of patient survival which has been adjusted to take account of deaths unrelated to cancer. It is more widely used to assess the impact of changes in cancer care on patient survival.
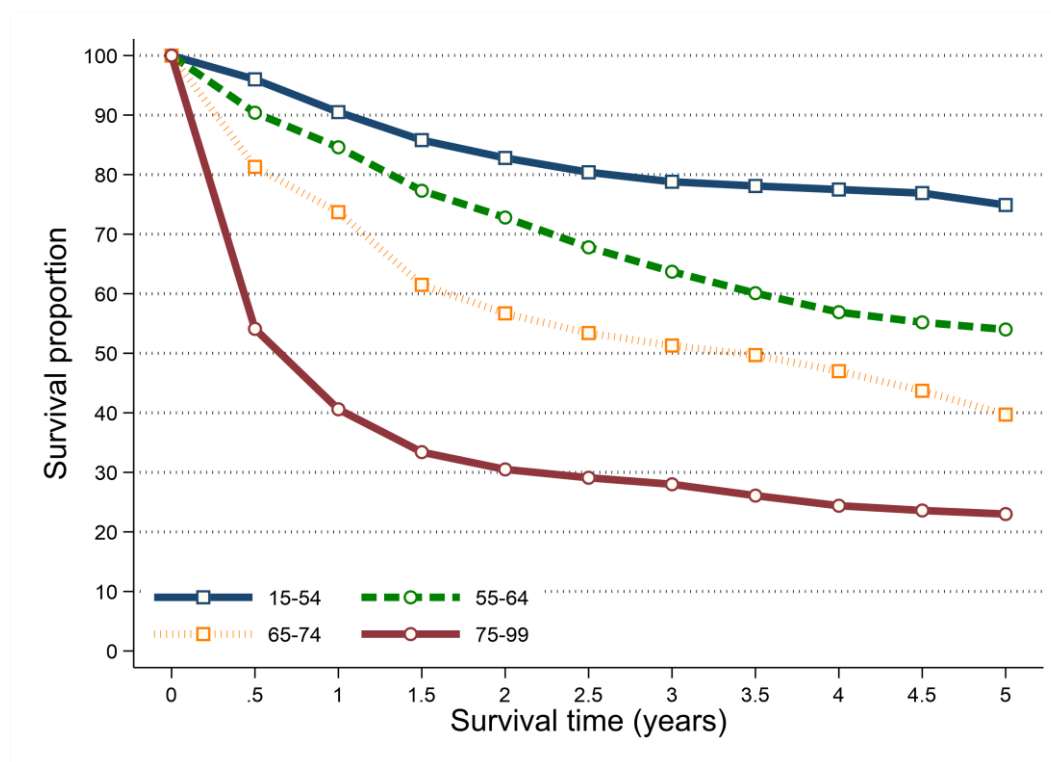
SURVIVAL BY AGE

- Survival from ovarian cancer among patients diagnosed during 2013-2017 was related to age with better five-year survival among younger age groups.
- Five-year net survival ranged from 74.9% among patients aged 15 to 54 at diagnosis to 23.0% among those aged 75 to 99.

Table 5: Net survival from ovarian cancer for patients diagnosed in 2013-2017 by age at diagnosis

Age group	Female	
	One-year	Five-years
15 to 54	90.5%	74.9%
55 to 64	84.6%	54.0%
65 to 74	73.7%	39.7%
75 to 99	40.6%	23.0%

*Figure 11: Net survival from ovarian cancer for patients diagnosed in 2013-2017 by age at diagnosis*

SURVIVAL TRENDS

ONE-YEAR NET SURVIVAL

- Between 2013-2017 and 2018-2022 there was no significant change in one-year survival (ASNS) from ovarian cancer among females.

- Compared to 1993-1997 one-year survival (ASNS) from ovarian cancer among females in 2018-2022 increased significantly from 60.1% to 70.5%.

Figure 12: Trends in one-year age-standardised net survival from ovarian cancer in 1993-2022
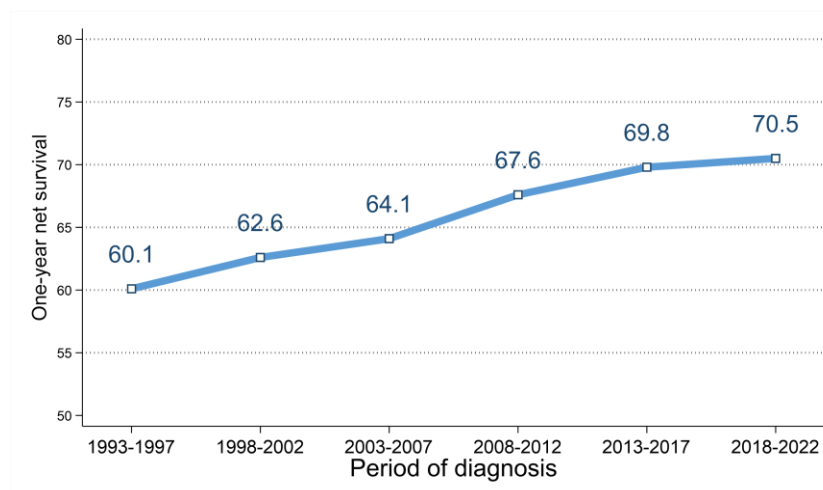
FIVE-YEAR NET SURVIVAL

- Between 2008-2012 and 2013-2017 there was no significant change in five-year survival (ASNS) from ovarian cancer among females.

- Compared to 1993-1997 five-year survival (ASNS) from ovarian cancer among females in 2013-2017 did not change significantly.

Figure 13: Trends in five-year age-standardised net survival from ovarian cancer in 1993-2017
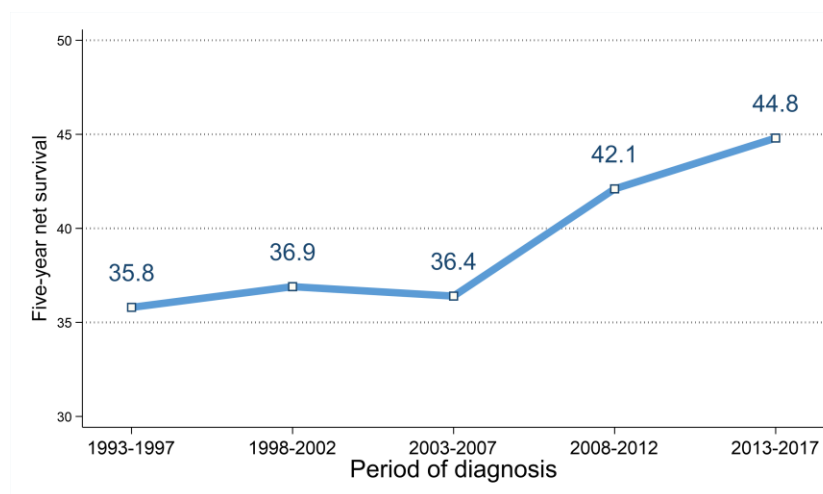
SURVIVAL BY STAGE

- Survival from ovarian cancer among patients diagnosed during 2013-2017 was strongly related to stage with better five-year survival among those diagnosed at earlier stages.
- Five-year survival (ASNS) ranged from 89.3% among patients diagnosed at Stage I to 11.5% among those diagnosed at Stage IV.

Table 6: Age-standardised net survival from ovarian cancer for patients diagnosed in 2013-2017 by stage at diagnosis

Stage at diagnosis	Female	
	One-year	Five-years
Stage I	93.5%	89.3%
Stage II	88.3%	71.2%
Stage III	66.7%	21.5%
Stage IV	43.2%	11.5%
Unknown	37.4%	21.0%

Figure 14: Age-standardised net survival from ovarian cancer for patients diagnosed in 2013-2017 by stage at diagnosis
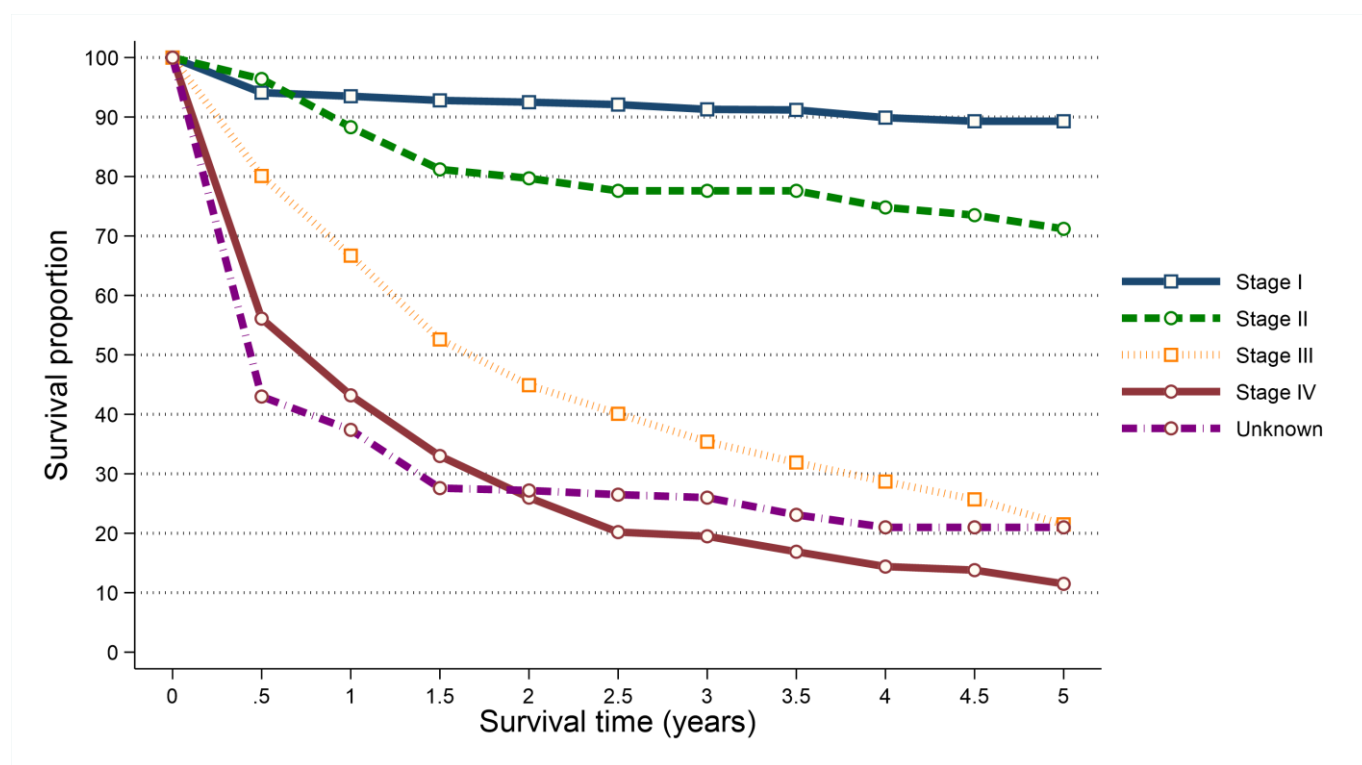
PREVALENCE

- At the end of 2022, there were 1,771 females living with ovarian cancer who had been diagnosed with the disease during 1998-2022.
- Of these 8.8% had been diagnosed in the previous year (one-year prevalence) and 56.5% in the previous 10 years (ten-year prevalence).
- 24.4% of ovarian cancer survivors were aged 75 and over at the end of 2022.
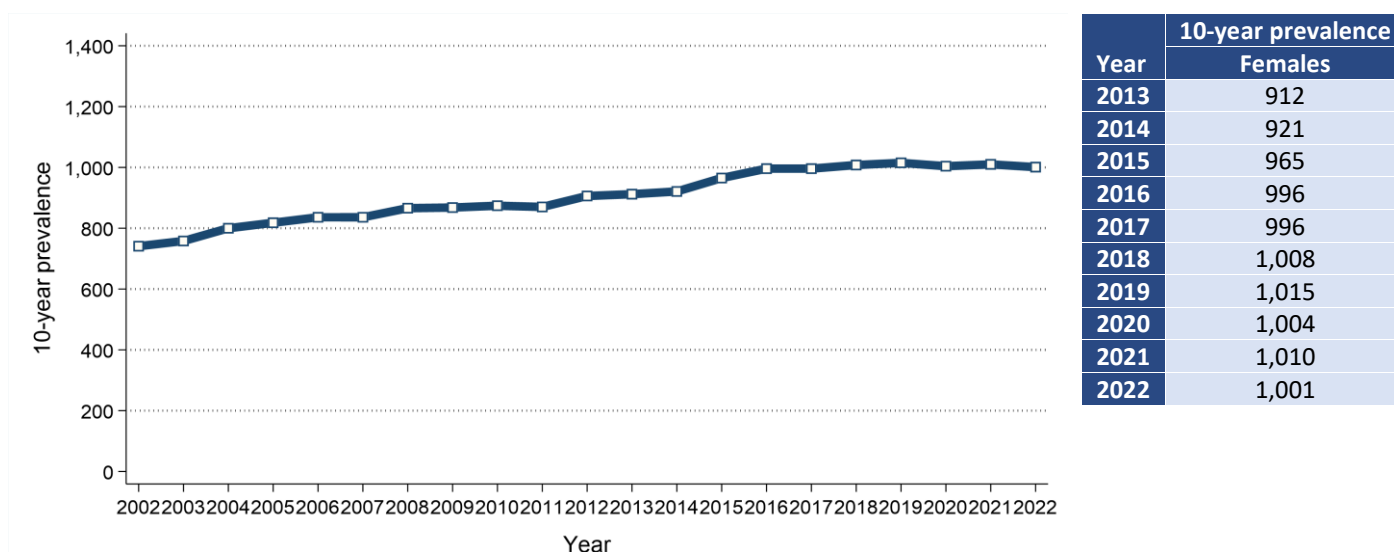
Table 7: 25-year prevalence of ovarian cancer by age at end of 2022

Age at end of 2022	25-year prevalence	Time since diagnosis			
		0 to 1 year	1 to 5 years	5 to 10 years	10 to 25 years
All ages	1,771	155	440	406	770
0 to 74	1,338	110	350	321	557
75 and over	433	45	90	85	213

PREVALENCE TRENDS

- 10-year prevalence of ovarian cancer among females increased between 2017 and 2022 by 0.5% from 996 survivors to 1,001 survivors.

*Figure 15: Trends in 10-year prevalence of ovarian cancer in 2002-2022*

Year	10-year prevalence Females
2013	912
2014	921
2015	965
2016	996
2017	996
2018	1,008
2019	1,015
2020	1,004
2021	1,010
2022	1,001

MORTALITY

- There were 602 deaths from ovarian cancer (including fallopian tube) during 2018-2022 in Northern Ireland. On average this was 120 deaths per year.
- Ovarian cancer deaths made up 5.6% of all female cancer deaths.
- The median age of females who died from ovarian cancer during 2018-2022 was 74 years.
- The risk of dying from ovarian cancer varied by age, with 46.2% of women who died from ovarian cancer aged 75 and over at death.
- In contrast, 7.3% of women who died from ovarian cancer were aged 0 to 54 at death.

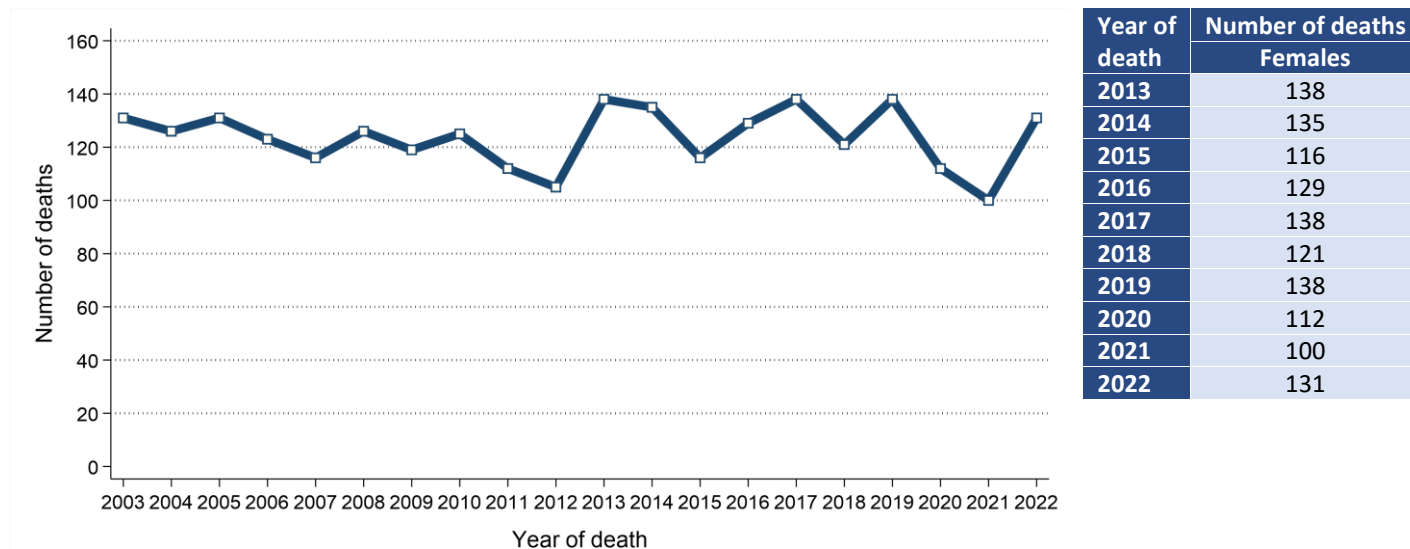*Figure 16: Average number of deaths from ovarian cancer per year in 2018-2022 by age at death*
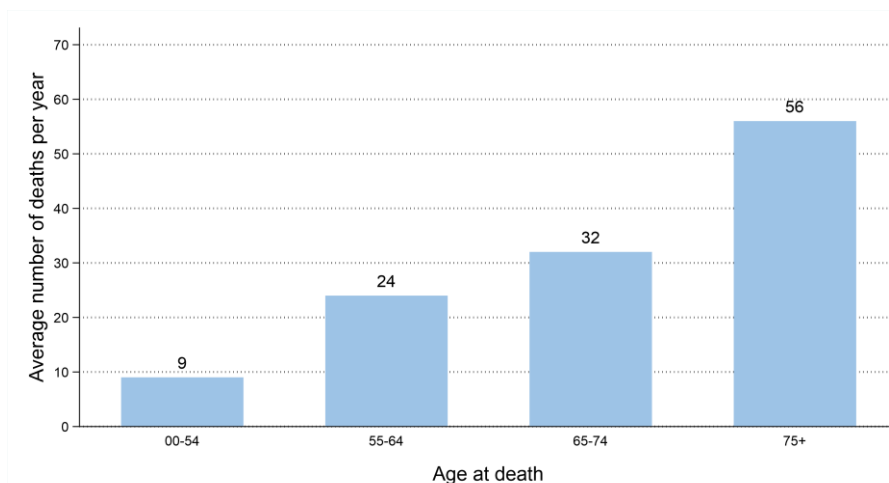
*Figure 17: Age-specific mortality rates of ovarian cancer in 2018-2022*
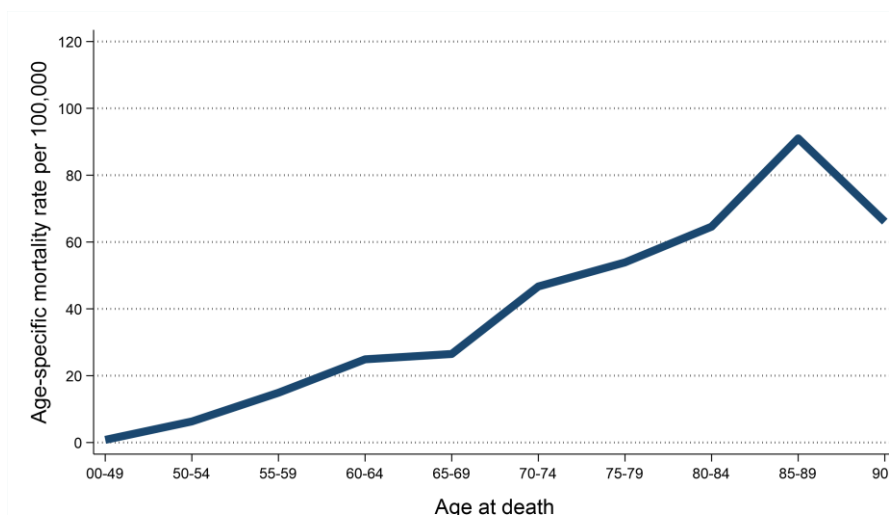
MORTALITY TRENDS

- The number of deaths from ovarian cancer among females decreased between 2013-2017 and 2018-2022 by 8.2% from 656 deaths (131 deaths per year) to 602 deaths (120 deaths per year).

Figure 18: Trends in the number of deaths from ovarian cancer from 2003 to 2022

Year of death	Number of deaths Females
2013	138
2014	135
2015	116
2016	129
2017	138
2018	121
2019	138
2020	112
2021	100
2022	131

- Female age-standardised ovarian cancer mortality rates decreased between 2013-2017 and 2018-2022 by 16.1% from 15.5 to 13.0 deaths per 100,000 females. This change was statistically significant.

Figure 19: Trends in mortality rates of ovarian cancer from 2003 to 2022
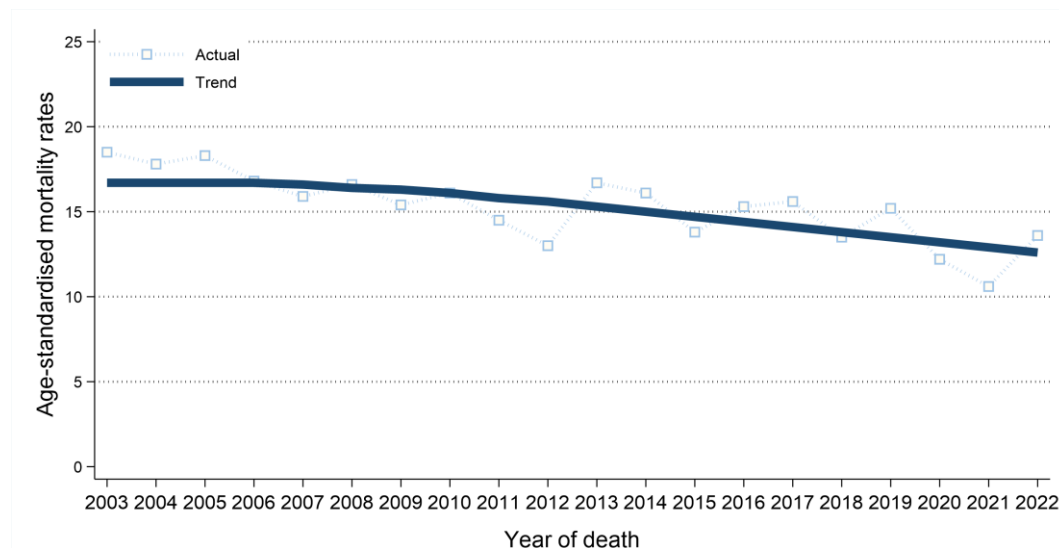
Age-standardised mortality rates illustrate the change in the number of deaths within a population of a fixed size and age structure (2013 European Standard).

They thus represent changes other than those caused by population growth and/or ageing.

Trends can also be influenced by changes in how cancer is classified and coded.

Cancer classification: Classification of tumour sites is carried out using ICD10 codes. For a listing and explanation of ICD10 codes see: World Health Organisation at http://apps.who.int/classifications/icd10/browse/2010/en#/II

Population data: Population data for Northern Ireland, and smaller geographic areas, are extracted from the NI mid-year population estimates available from the NI Statistics and Research Agency (available at www.nisra.gov.uk).

Geographic areas: Geographic areas are assigned based on a patient's postcode of usual residence at diagnosis using the Jul 2024 Central Postcode Directory (CPD) produced by the NI Statistics and Research Agency (available at www.nisra.gov.uk).

Deprivation quintiles: Super output areas (SOA) are assigned to each patient based on their postcode of usual residence at diagnosis. Using the SOA each patient is assigned a socio-economic deprivation quintile based on the 2017 Multiple Deprivation Measure. The 2017 Multiple Deprivation Measure is available from the NI Statistics and Research Agency (available at www.nisra.gov.uk).

Crude incidence/mortality rate: The number of cases/deaths per 100,000 person years in the population. Person years are the sum of the population over the number of years included.

Age-standardised incidence/mortality rates per 100,000 person years are estimates of the incidence/mortality rate if that population had a standard age structure. Throughout this report the 2013 European Standard Population has been used. Standardising to a common Standard Population allows comparisons of incidence/mortality rates to be made between different time periods and geographic areas while removing the effects of population change and ageing.

Standardised Incidence/Mortality Ratio (SIR/SMR) is the ratio of the number of cases/deaths observed in a population to the expected number of cases/deaths, based upon the age-specific rates in a reference population. This statistic is often used to compare incidence/mortality rates for geographic areas (e.g. Trusts) to the national incidence/mortality rates (i.e. Northern Ireland). An SIR/SMR of 100 indicates there is no difference between the geographic area and the national average.

Confidence intervals measure the precision of a statistic (e.g. ovarian cancer incidence rate). Typically, when numbers are low, precision is poorer and confidence intervals will be wider. As a general rule, when comparing statistics (e.g. ovarian cancer incidence rate in year 2012 vs year 2013), if the confidence interval around one statistic overlaps with the interval around another, it is unlikely that there is any real difference between the two. If there is no overlap, the difference is considered to be statistically significant.

Lifetime risk is estimated as the cumulative risk of getting cancer up to age 75/85, calculated directly from the age-specific incidence rates. The odds of developing the disease before age 75/85 is the inverse of the cumulative risk.

Prevalence is the number of cancer patients who are alive in the population on a specific date (31st December 2022 in this report). Since data from the NI Cancer Registry are only available since 1993, prevalence only refers to a fixed term (10 and 25 years in this report). There may be members of the population living with a diagnosis of cancer for more than 25 years.

Patient survival is evaluated using two measures. Observed survival examines the time between diagnosis and death from any cause. It thus represents what cancer patients experience, however, due to the inclusion of non-cancer deaths (e.g. heart disease), it may not reflect how changes in cancer care impact survival from cancer. Thus age-standardised net survival is also examined. This measure provides an estimate of patient survival which has been adjusted to take account of deaths unrelated to cancer. It also assumes a standard age distribution thereby removing the impact of changes in the age distribution of cancer patients on changes in survival over time. While this measure is hypothetical, as it assumes patients can only die from cancer related factors, it is a better indicator of the impact of changes in cancer care on patient survival.