

# Ovarian cancer

(including fallopian tube)

Patients diagnosed 1993-2019

(ICD10: C56-C57.4)

## Further information

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Further data is available at: [www.qub.ac.uk/research-centres/nicr](http://www.qub.ac.uk/research-centres/nicr)

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## Acknowledgements

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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.



## Incidence

During 2015-2019:

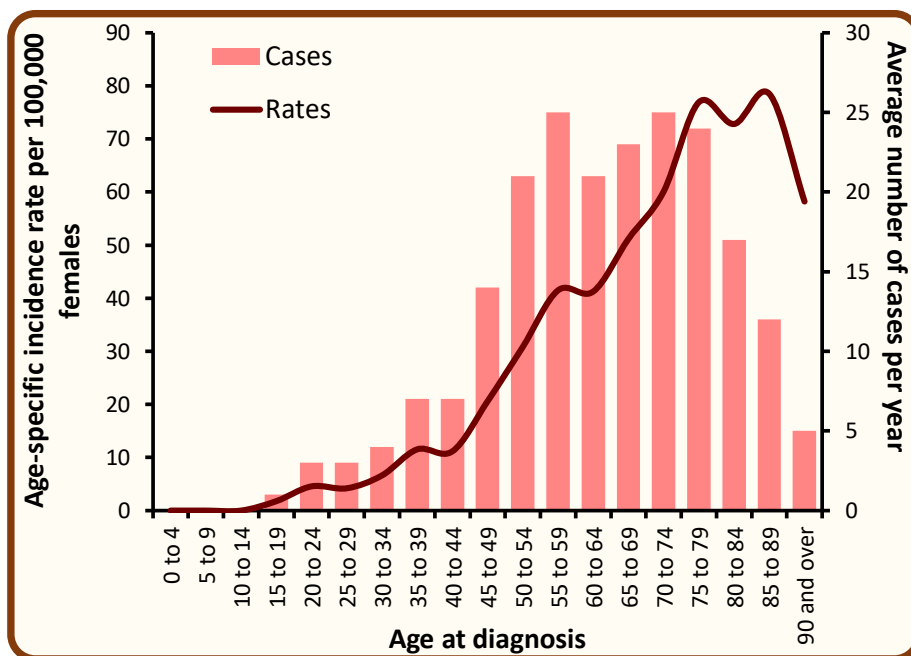
- There were 212 cases of ovarian cancer diagnosed each year.
- Ovarian cancer made up 4.3% of all female cancers (ex NMSC).
- Among women the risk of developing ovarian cancer before the age of 75 was 1 in 70.5, while before the age of 85 the risk was 1 in 46.4.

### Incidence by age at diagnosis - Ovarian cancer, Cases in 2015-2019

During 2015-2019:

- The median age at diagnosis among women was 65.
- Cancer risk increased with age, with 27.4% of women aged 75 years or more at diagnosis.
- 28.3% of cases were diagnosed among those aged under 55.

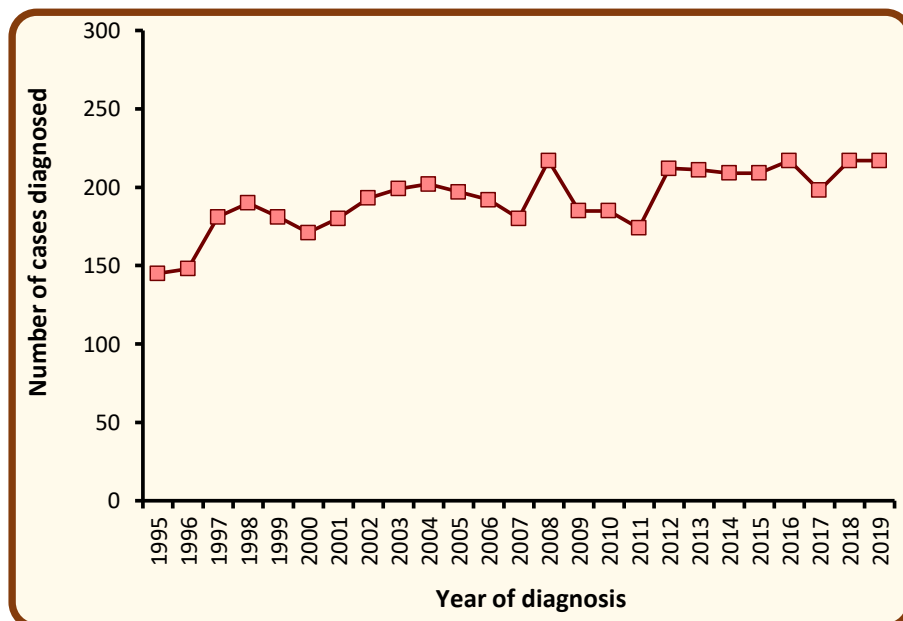
Age at diagnosis	Average cases per year
	Female
0 - 54	60
55 - 64	46
65 - 74	48
75 and over	58
All ages	212



### Incidence by year of diagnosis - Ovarian cancer, Cases in 1995-2019

- Among females the number of cases of ovarian cancer increased by 7.1% from an annual average of 198 cases in 2010-2014 to 212 cases in 2015-2019.

Year of diagnosis	Female cases
2010	185
2011	174
2012	212
2013	211
2014	209
2015	209
2016	217
2017	198
2018	217
2019	217

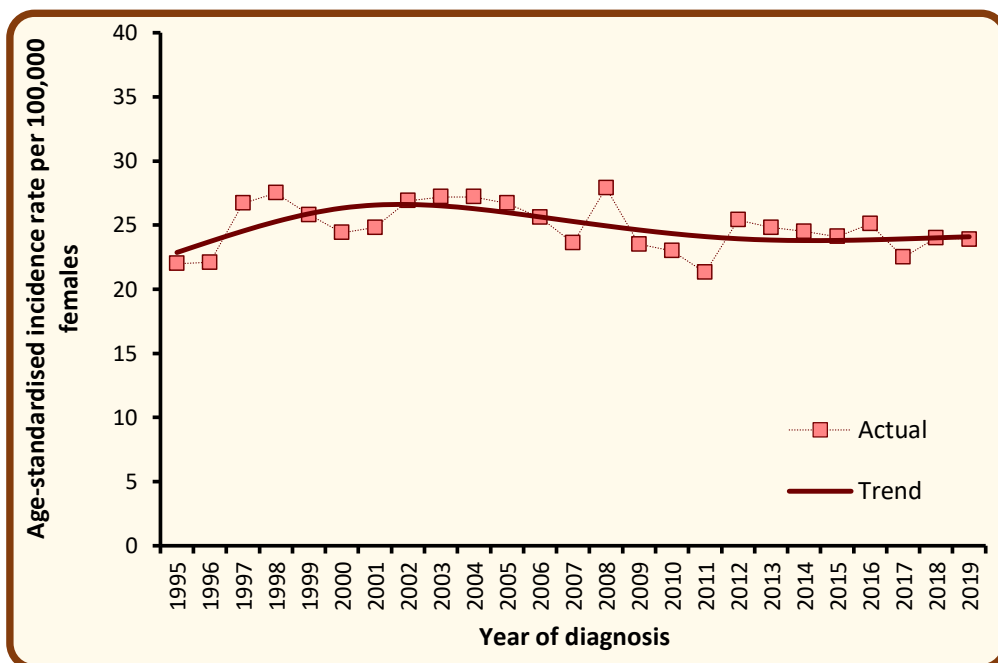


Note: Annual averages have been rounded to the nearest integer. Sums of numbers in table rows or columns may thus differ slightly from the given total.

NMSC: Non-melanoma skin cancer

## Trends in age-standardised incidence rates - Ovarian cancer, Cases in 1995-2019

- Among females age-standardised incidence rates of ovarian cancer did not change between 2010-2014 and 2015-2019 with 23.9 cases per 100,000 person years in both five-year periods.



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 deprivation quintile - Ovarian cancer, Cases in 2015-2019

The annual number of cases during 2015-2019 varied in each deprivation quintile due to variations in population size and age.

After accounting for these factors, incidence rates:

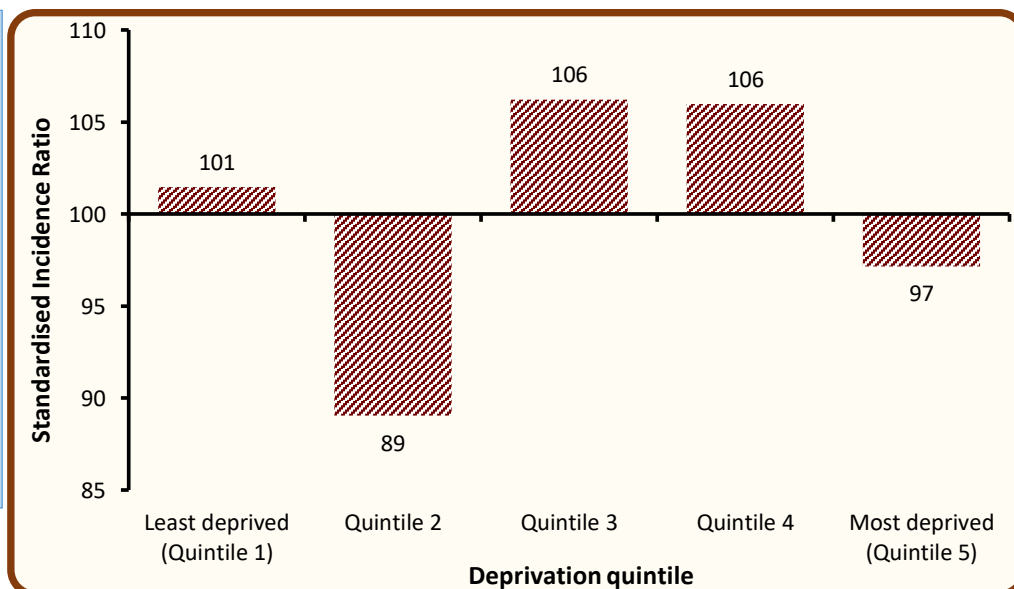
- in the most socio-economically deprived areas did not vary significantly from the NI average.
- in the least socio-economically deprived areas did not vary significantly from the NI average.

Deprivation quintile	Average cases per year
	Female
Least deprived (Quintile 1)	45
Quintile 2	40
Quintile 3	47
Quintile 4	45
Most deprived (Quintile 5)	35
<b>Northern Ireland</b>	<b>212</b>

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

A value above 100 means that incidence rates in that deprivation quintile are greater than the Northern Ireland average.

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



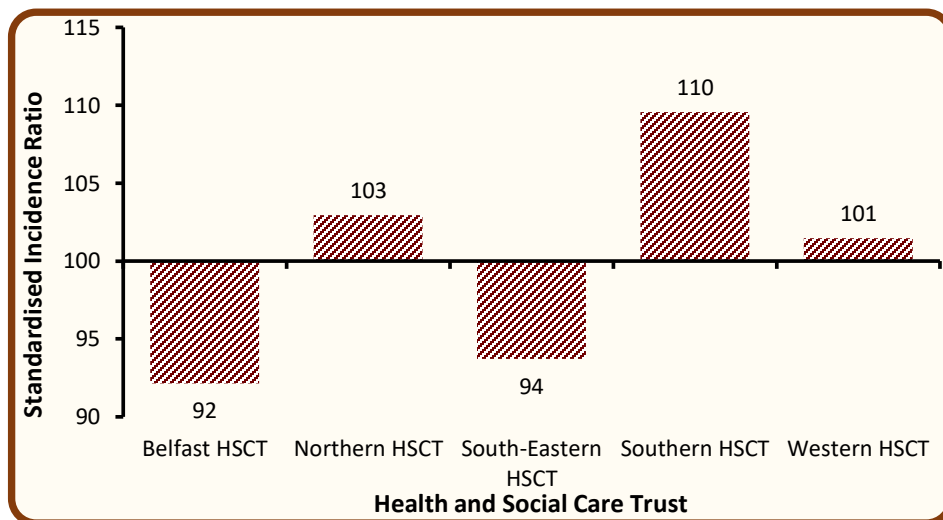
## Incidence by Health and Social Care Trust (HSCT) - Ovarian cancer, Cases in 2015-2019

The annual number of cases during 2015-2019 varied in each HSCT 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.

Health and Social Care Trust	Average cases per year
	Female
Belfast HSCT	37
Northern HSCT	57
South-Eastern HSCT	41
Southern HSCT	43
Western HSCT	33
<b>Northern Ireland</b>	<b>212</b>



Standardised incidence ratios compare incidence rates in each HSC Trust with the Northern Ireland incidence rate. A value above 100 means that incidence rates in that HSC Trust 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.

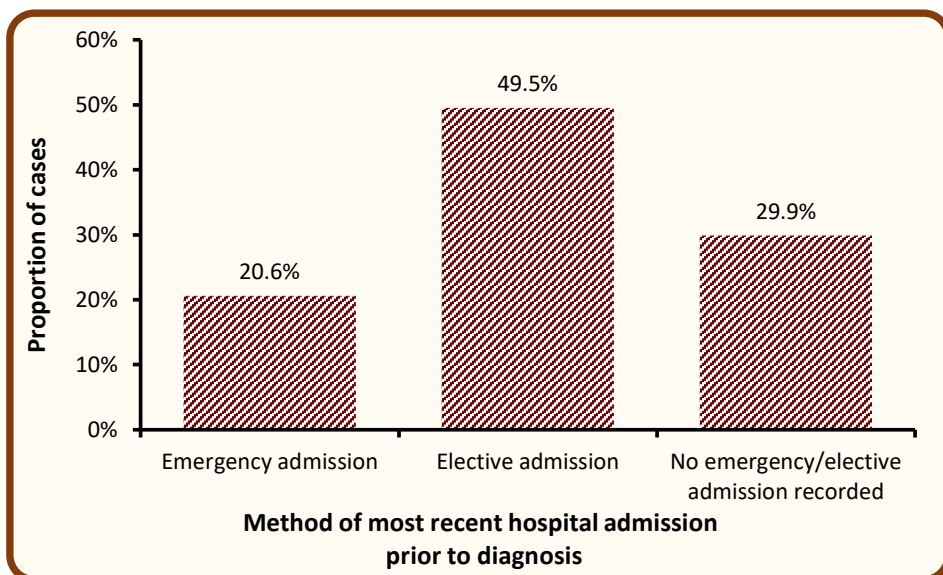
Data for Local Government Districts and Parliamentary Constituencies are available at [www.qub.ac.uk/research-centres/nicr](http://www.qub.ac.uk/research-centres/nicr)

## Incidence by method of most recent admission to hospital - Ovarian cancer, Cases in 2015-2019

During 2015-2019:

- 20.6% of cases had an emergency admission to hospital recorded up to 30 days prior to diagnosis.
- In 29.9% of diagnosed cases there was no record of a hospital inpatient admission up to 30 days prior to diagnosis.

Method of admission	Average cases per year
	Female
Emergency admission	44
Elective admission	105
No emergency/elective admission recorded	63
<b>Total</b>	<b>212</b>



Admission method refers to the most recent hospital inpatient admission that a patient had prior to cancer diagnosis, regardless of reason for the admission.

Admissions are considered up to a maximum of 30 days prior to diagnosis. Admissions up to two days post diagnosis are also considered to allow for a reasonable margin or error in data recording.

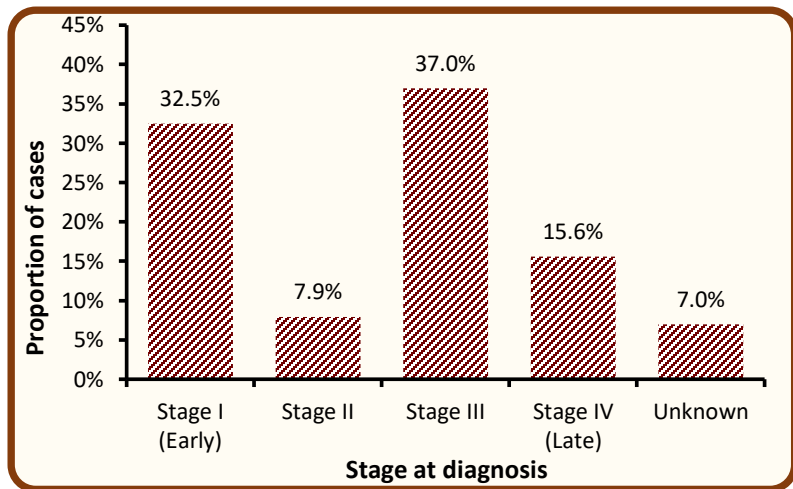
The majority of patients with no inpatient admission recorded prior to diagnosis are likely to have been diagnosed via an outpatient route.

## Incidence by stage at diagnosis - Ovarian cancer, Cases in 2015-2019

During 2015-2019:

- 93.0% of cases diagnosed had a stage assigned.
- 32.5% of cases were diagnosed at stage I. (35.0% of staged cases)
- 15.6% of cases were diagnosed at stage IV. (16.8% of staged cases)

Stage at diagnosis	Average cases per year
Stage I (Early)	69
Stage II	17
Stage III	78
Stage IV (Late)	33
Unknown	15
<b>All stages</b>	<b>212</b>



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).

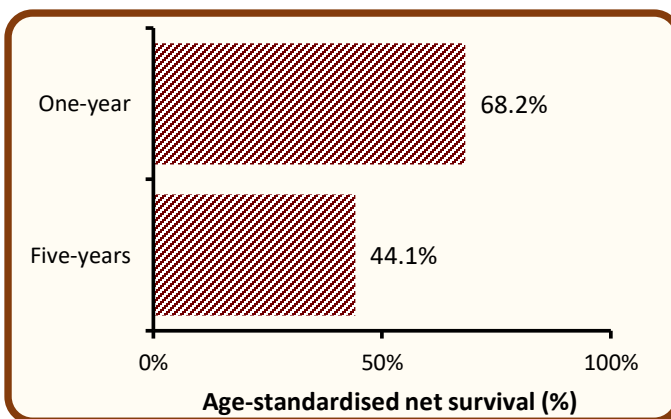
## Survival

- 69.8% of ovarian cancer patients were alive one year and 45.0% were alive five years after a diagnosis in 2010-2014. (observed survival)
- Age-standardised net survival (ASNS), which removes the effect of deaths from causes unrelated to cancer, was 68.2% one year and 44.1% five years from a ovarian cancer diagnosis in 2010-2014.

Survival time	Observed survival	Age-standardised net survival
One-year	69.8%	68.2%
Five-years	45.0%	44.1%

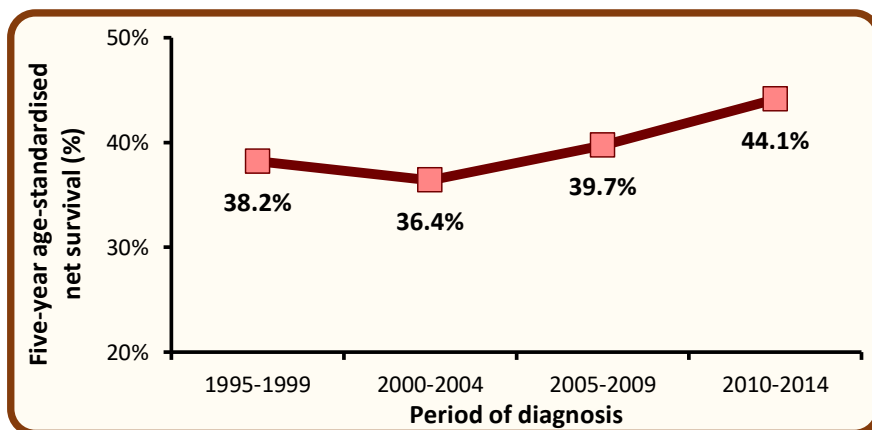
Observed survival is the proportion of patients still alive one/five years after diagnosis. However, in this measure patients may have died from causes unrelated to their cancer.

Age-standardised net survival is the proportion of patients who would survive if the patient could not die from causes unrelated to their cancer. This measure is more typically used in studies of cancer survival.



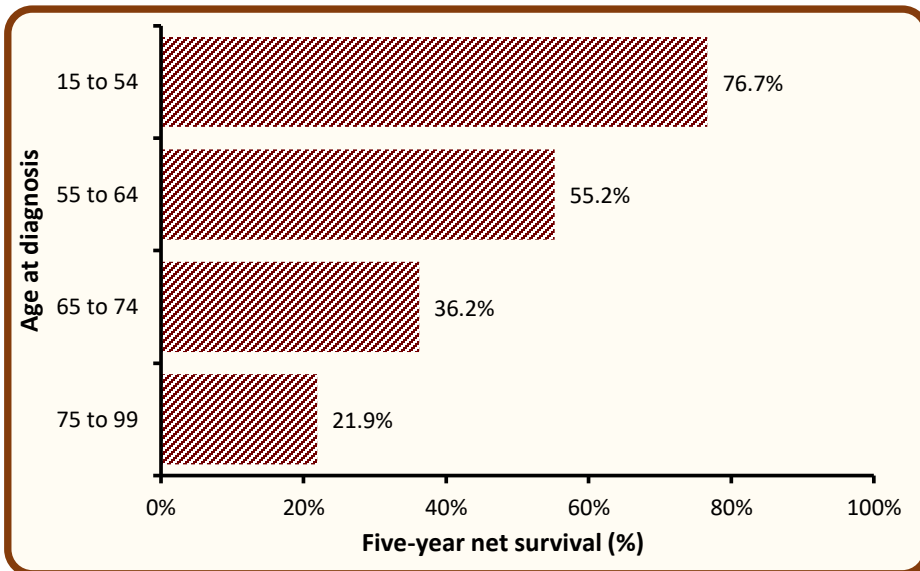
## Trends in survival - Ovarian cancer, Patients diagnosed in 1995-2014

- Five-year survival (ASNS) from ovarian cancer increased from 39.7% in 2005-2009 to 44.1% in 2010-2014. This difference was not statistically significant.



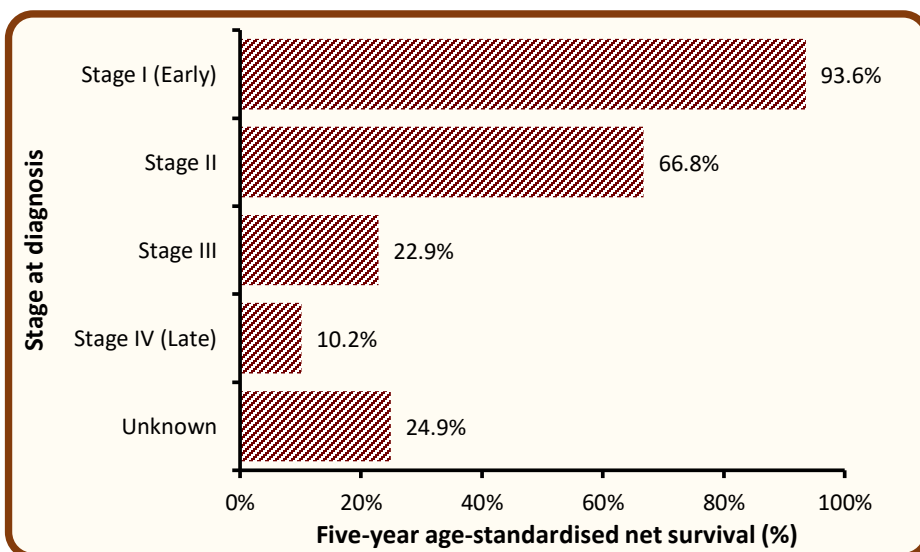
**Survival by age at diagnosis - Ovarian cancer, Patients diagnosed in 2010-2014**

- Survival from ovarian cancer among patients diagnosed in 2010-2014 was related to patient age with better five-year survival among younger age groups.
- Five-year net survival ranged from 76.7% among patients aged under 55 at diagnosis to 21.9% among those aged 75 and over.



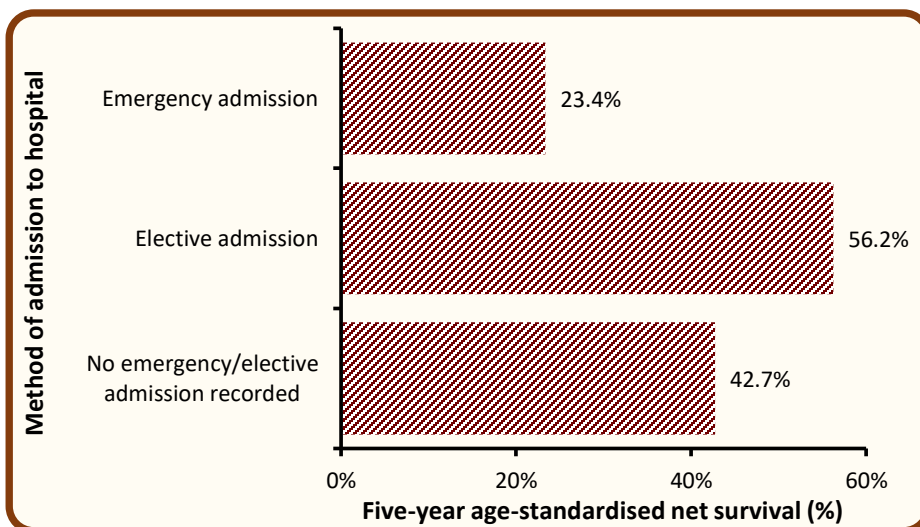
**Survival by stage at diagnosis - Ovarian cancer, Patients diagnosed in 2010-2014**

- Stage at diagnosis is one of the most important factors in ovarian cancer survival with five-year survival decreasing as stage increases.
- Five-year survival (ASNS) ranged from 93.6% for early stage (stage I) disease to 10.2% for late stage (stage IV) disease.
- Five-year survival (ASNS) for unstaged cancer was 24.9%.



**Survival by method of most recent admission to hospital - Ovarian cancer, Patients diagnosed in 2010-2014**

- Five-year survival (ASNS) among patients who had an emergency admission to hospital up to 30 days prior to their cancer diagnosis was 23.4% compared to 56.2% among those with elective admissions and 42.7% among those who had no hospital admissions recorded up to 30 days prior to diagnosis.



## Prevalence

- At the end of 2019, there were 1,721 women living with ovarian cancer who had been diagnosed in the previous 25 years.
- Of these, 22.4% were aged 75 and over, and 9.9% had been diagnosed in the previous year.

25-year prevalence refers to the number of cancer survivors who were alive at the end of 2019, and had been diagnosed with their cancer in the previous 25 years (i.e. 1995-2019).

Time since diagnosis	25-year prevalence		
	Aged 0-74	Aged 75+	All ages
0-1 year	139	32	171
1-5 years	359	84	443
5-10 years	320	70	390
10-25 years	517	200	717
0-25 years	1,335	386	1,721

### Trends in 10-year prevalence - Ovarian cancer, Patients alive at end of each year from 2010-2019

- Among women the number of survivors from ovarian cancer who had been diagnosed within the previous ten years increased by 9.5% from 917 survivors in 2014 to 1,004 survivors in 2019.

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Female	873	866	901	908	917	960	990	991	1,002	1,004

## Mortality

- During 2015-2019 there were 128 deaths from ovarian cancer each year. Ovarian cancer made up 6.1% of all female cancer deaths (ex NMSC).
- Risk of death from ovarian cancer was strongly related to age, with 43.8% of women aged 75 years or more at time of death, while 9.4% of ovarian cancer deaths occurred among those aged under 55. The median age at death was 72.

Age at death	Average deaths per year
0 - 54	12
55 - 64	25
65 - 74	37
75 +	56

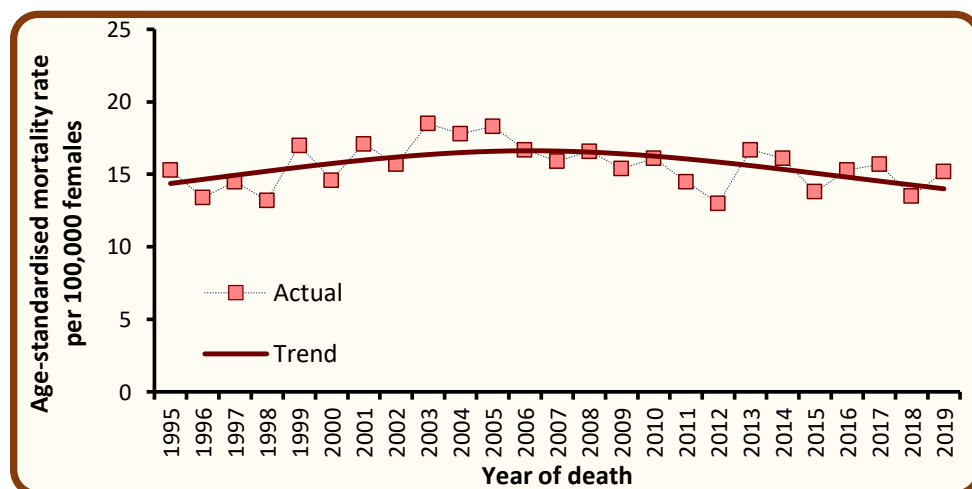
### Deaths by year of death - Ovarian cancer, Deaths in 2010-2019

- Among women the number of deaths from ovarian cancer increased by 4.1% from an annual average of 123 deaths in 2010-2014 to 128 deaths in 2015-2019.

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Female	125	112	105	138	135	116	129	138	121	138

### Trends in age-standardised mortality rates - Ovarian cancer, Deaths in 1995-2019

- Among females age-standardised mortality rates from ovarian cancer decreased by 3.9% between 2010-2014 and 2015-2019 from 15.3 to 14.7 deaths per 100,000 persons years. This difference was not statistically significant.



Mortality data are provided by the Northern Ireland General Registrar Office via the Department of Health.

Counts of the number of deaths are based upon the year that death occurred, and upon the primary cause of death only.

Age-standardised mortality rates remove changes over time caused by population growth and/or ageing.

## Background notes

**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** 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](http://www.nisra.gov.uk)).

**Geographic areas** are assigned based on a patient's postcode of usual residence at diagnosis using the Jan 2021 Central Postcode Directory (CPD) produced by the NI Statistics and Research Agency (available at [www.nisra.gov.uk](http://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](http://www.nisra.gov.uk)).

A **crude incidence/mortality rate** is 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.

An **age-standardised incidence/mortality rate** per 100,000 person years is an estimate 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.

A **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** are a measure of 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. cervical 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 2019 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.

**Observed survival** refers to the proportion of patients who survive a specified amount of time from their date of diagnosis. Observed survival considers death from any cause and is not adjusted for the age of the patient. Cause of death may be unrelated to the cancer the patient has been diagnosed with.

**Net Survival** is an estimate of survival where the effect on survival of background population mortality rates has been removed. It represents the [theoretical] survival of cancer patients if they could only die from cancer-related causes. Age-standardised net survival estimates are the estimates that would occur if that population of cancer patients had a standard population age structure. The age groups and weights used here are those used by international studies such as EUROCARE, an international study group that compares cancer survival among European countries. However, due to the small number of patients in NI, the first two age categories in the standard population are combined.

**Mortality:** Information relating to cancer mortality is sourced from the General Registrar Office (GRONI) via the Department of Health (NI). Results are based upon the date on which death occurs, and may thus differ slightly than those produced by the Northern Ireland Statistics and Research Agency (NISRA), which produces deaths data based upon the date on which the death is registered with GRONI.