

# All cancers

Patients diagnosed 1993-2019  
(ICD10: C00-C97)

[Original release: 16th Sept 2021; Updated with minor amendments 12th Nov 2021 - See Amendments document for details]

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

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:

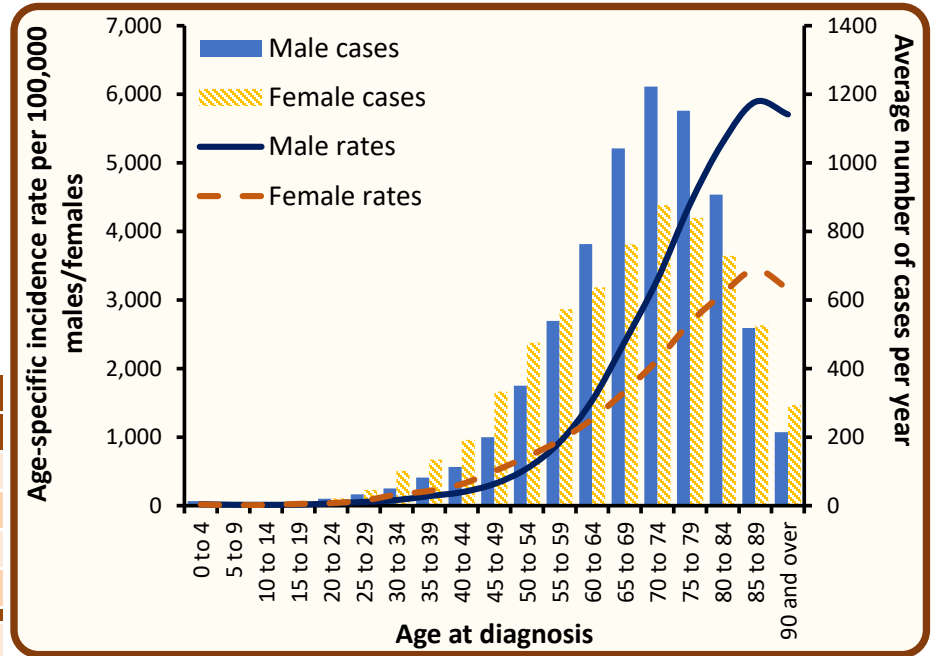
- There were 7,244 male and 6,574 female cases of cancer diagnosed each year.
- There were 786.8 male and 691.0 female cases of cancer per 100,000 males/females in the population.
- The risk of developing cancer before the age of 75 was 1 in 2.6 for men and 1 in 3.0 for women, while before the age of 85 the risk was 1 in 1.6 for men and 1 in 2.0 for women.

## Incidence by age at diagnosis - All cancers, Cases in 2015-2019

During 2015-2019:

- The median age at diagnosis was 71 for men and 69 for women.
- Cancer risk increased with age, with 38.5% of men and 36.3% of women aged 75 years or more at diagnosis.
- 16.1% of cases were diagnosed among those aged under 55.

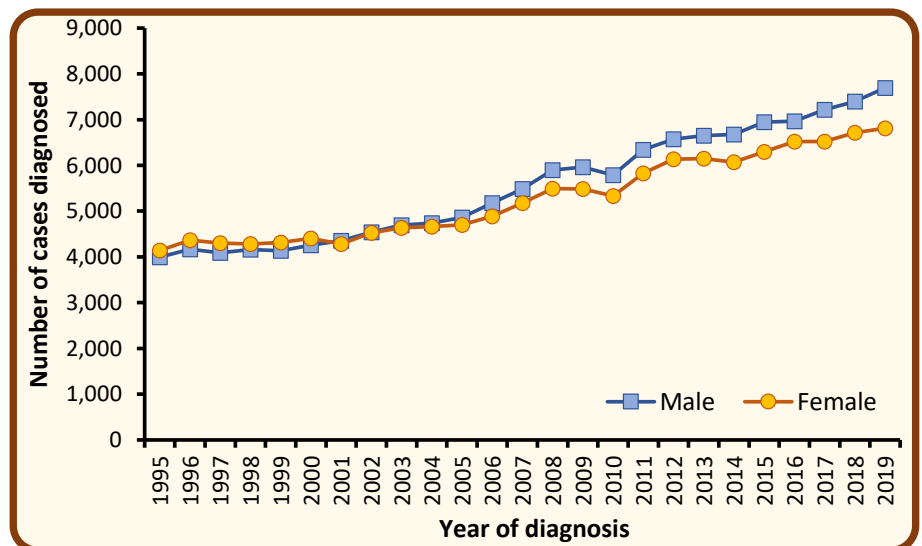
Age at diagnosis	Average cases per year		
	Male	Female	Both sexes
0 - 54	886	1,338	2,226
55 - 64	1,302	1,210	2,512
65 - 74	2,264	1,638	3,902
75 +	2,791	2,387	5,180
<b>All ages</b>	<b>7,244</b>	<b>6,574</b>	<b>13,818</b>



## Incidence by year of diagnosis - All cancers, Cases in 1995-2019

- Among males the number of cases of cancer increased by 13.1% from an annual average of 6,405 cases in 2010-2014 to 7,244 cases in 2015-2019.
- Among females the number of cases of cancer increased by 11.4% from an annual average of 5,903 cases in 2010-2014 to 6,574 cases in 2015-2019.

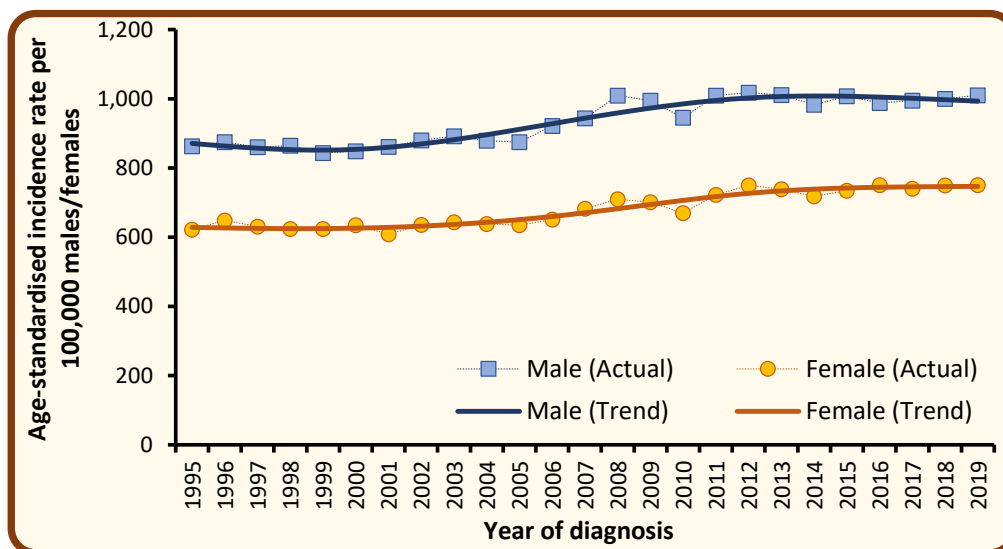
Year of diagnosis	Male	Female	Both sexes
2010	5,790	5,330	11,120
2011	6,341	5,825	12,166
2012	6,571	6,137	12,708
2013	6,649	6,149	12,798
2014	6,673	6,073	12,746
2015	6,946	6,297	13,243
2016	6,966	6,524	13,490
2017	7,219	6,523	13,742
2018	7,396	6,714	14,110
2019	7,693	6,811	14,504



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

## Trends in age-standardised incidence rates - All cancers, Cases in 1995-2019

- Among males age-standardised incidence rates of cancer increased by 0.6% from 993.7 per 100,000 person years in 2010-2014 to 999.9 cases per 100,000 persons years in 2015-2019. This difference was not statistically significant.
- Among females age-standardised incidence rates of cancer increased by 3.5% from 720.2 per 100,000 person years in 2010-2014 to 745.1 cases per 100,000 persons years in 2015-2019. This difference was statistically significant.



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).

## Trends in age-standardised incidence rates by age - All cancers, Cases in 1995-2019

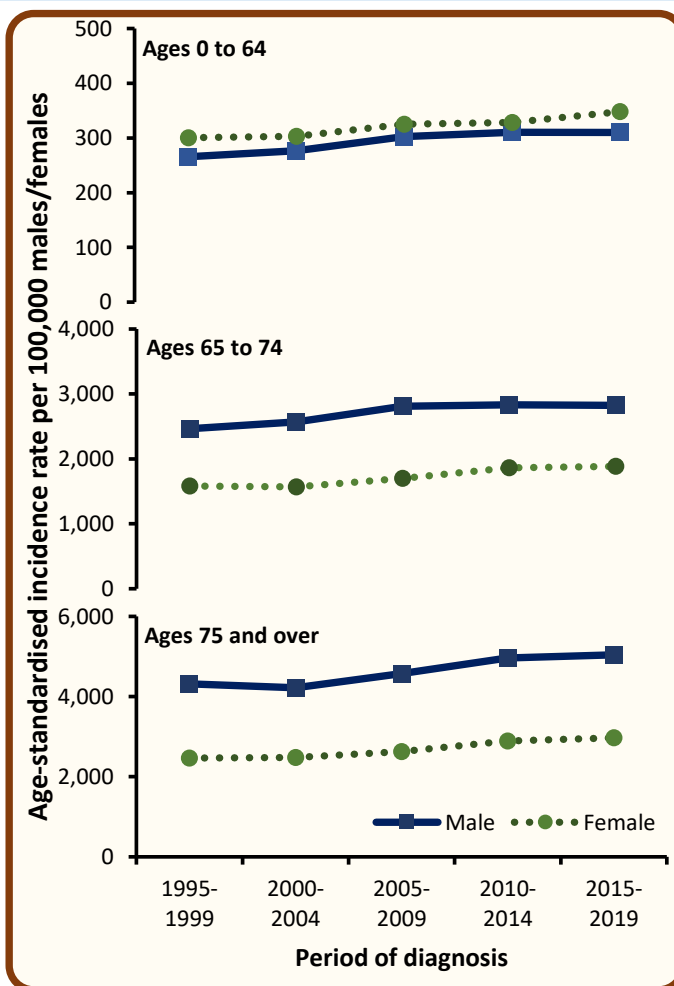
For the total number of cases recorded, between 2010-2014 and 2015-2019 there was:

- an increase of 6.2% among males aged 0 to 64, an increase of 13.0% among males aged 65 to 74 and an increase of 19.3% among males aged 75 and over.
- an increase of 12.0% among females aged 0 to 64, an increase of 11.7% among females aged 65 to 74 and an increase of 10.5% among females aged 75 and over.

Age group	Average cases per year			
	2010-2014		2015-2019	
	Male	Female	Male	Female
0 to 64	2,062	2,274	2,189	2,548
65 to 74	2,003	1,466	2,264	1,638
75 and over	2,340	2,162	2,791	2,388
All ages	6,405	5,903	7,244	6,574

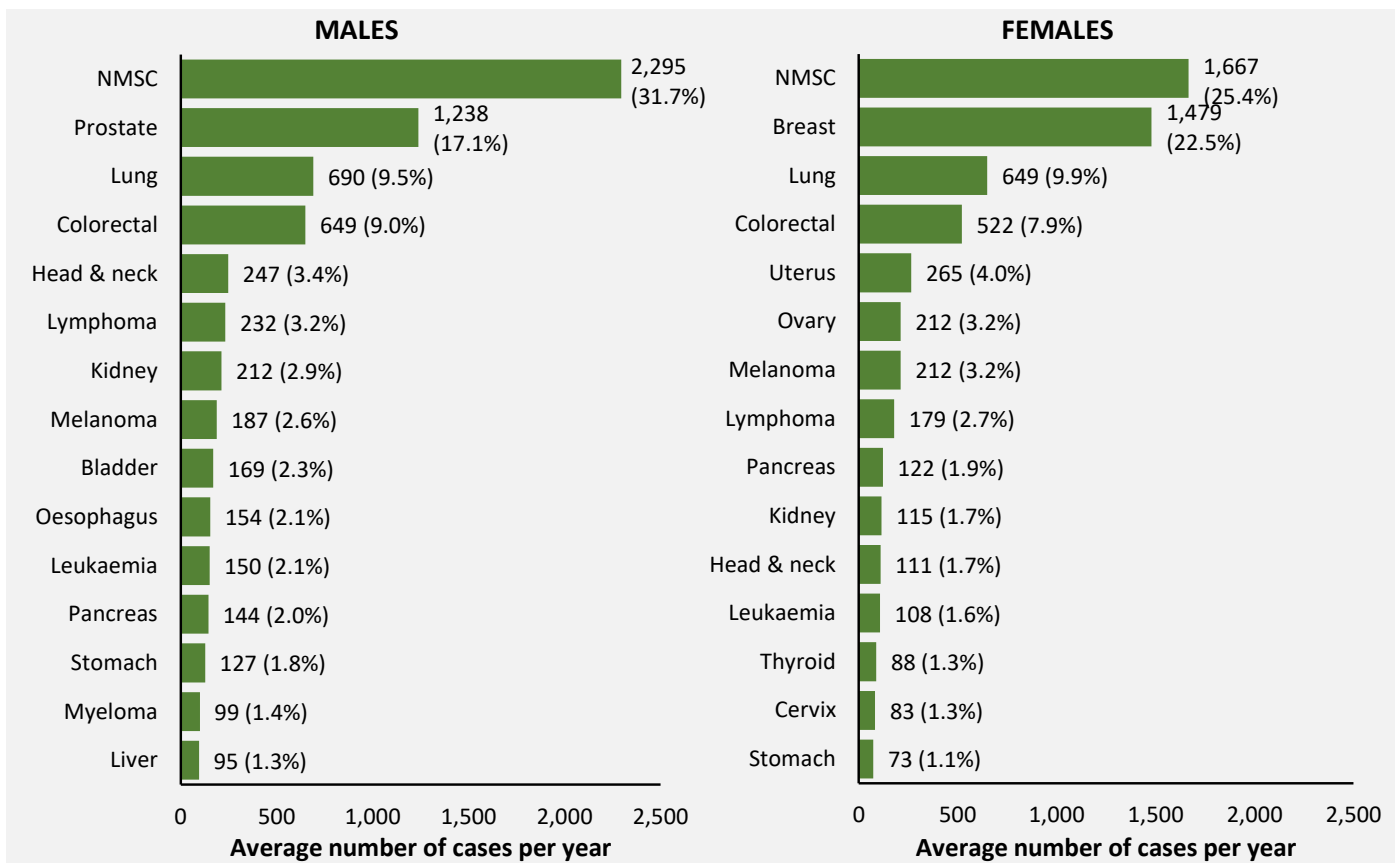
For age-standardised incidence rates, between 2010-2014 and 2015-2019 there was:

- no significant change among males aged 0 to 64, no significant change among males aged 65 to 74 and no significant change among males aged 75 and over.
- an increase of 6.0% among females aged 0 to 64, no significant change among females aged 65 to 74 and no significant change among females aged 75 and over.



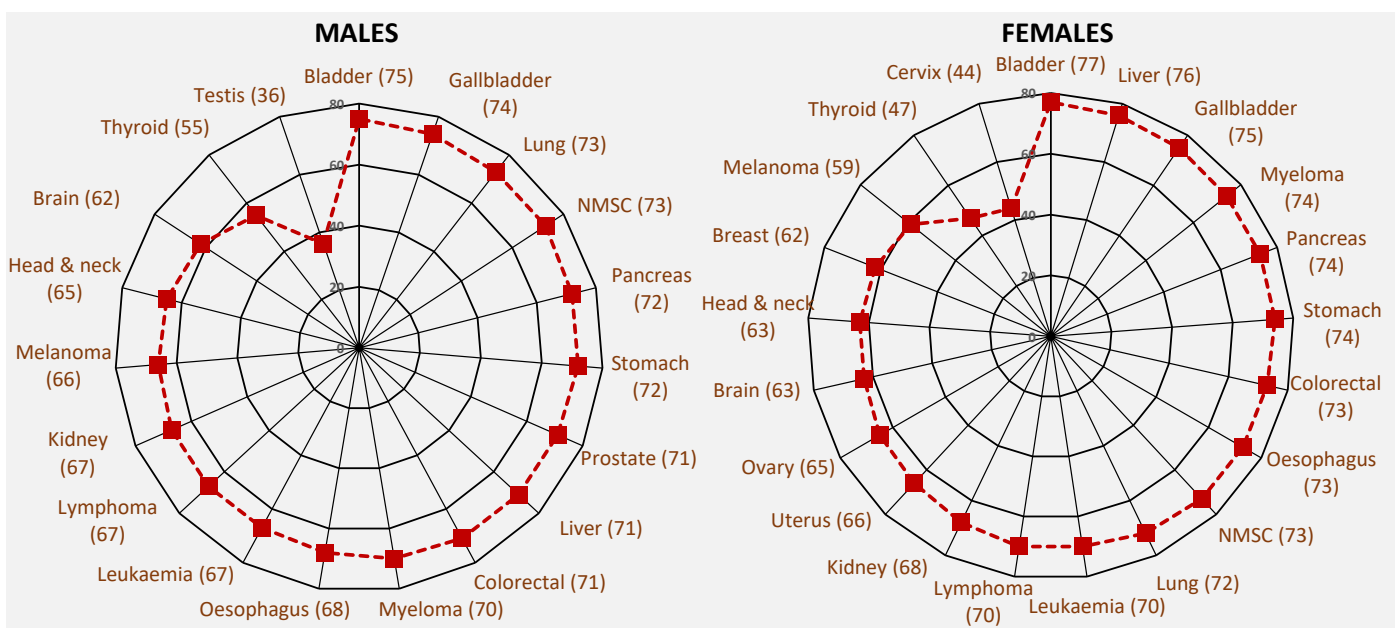
## Incidence by cancer type - All cancers, Cases in 2015-2019

The most common cancer types among men were non-melanoma skin cancer (31.7%), prostate cancer (17.1%), lung cancer (9.5%) and colorectal cancer (9.0%), while the most common cancer types among women were non-melanoma skin cancer (25.4%), breast cancer (22.5%), lung cancer (9.9%) and colorectal cancer (7.9%).



## Median age at diagnosis by cancer type - All cancers, Cases in 2015-2019

The median age at diagnosis for most cancer types during 2015-2019 was 60 years or more. Exceptions include testicular cancer (36) and thyroid cancer (55) among males, and cervical cancer (44), thyroid cancer (47) and melanoma (59) among females.



NMSC: Non-melanoma skin cancer

## Incidence by deprivation quintile - All cancers, 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:

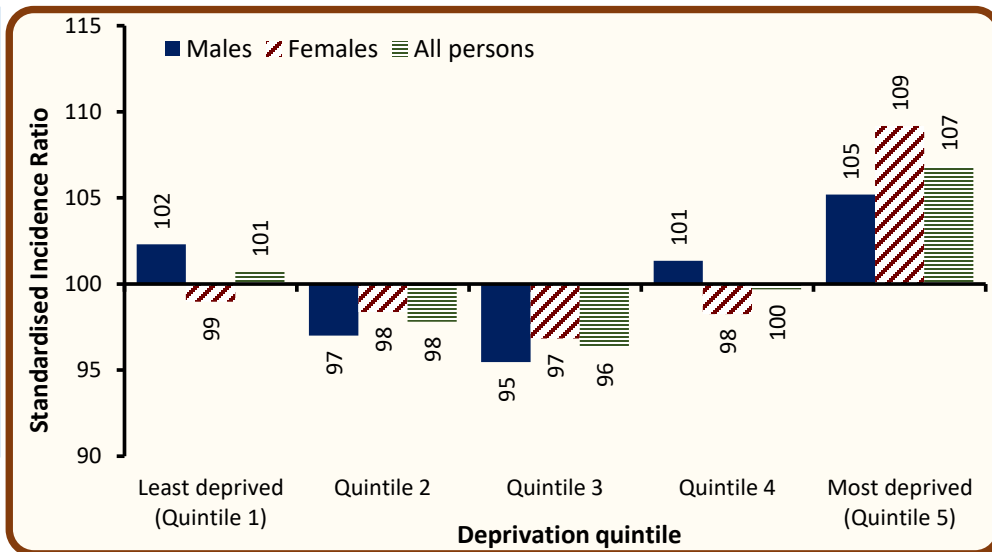
- in the most socio-economically deprived areas were 6.8% higher than the NI average.
- in the least socio-economically deprived areas did not vary significantly from the NI average.

Deprivation quintile	Average cases per year		
	Male	Female	Both sexes
Least deprived (Quintile 1)	1,566	1,387	2,952
Quintile 2	1,500	1,357	2,857
Quintile 3	1,475	1,320	2,795
Quintile 4	1,465	1,299	2,764
Most deprived (Quintile 5)	1,238	1,210	2,448
<b>Northern Ireland</b>	<b>7,244</b>	<b>6,574</b>	<b>13,818</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.



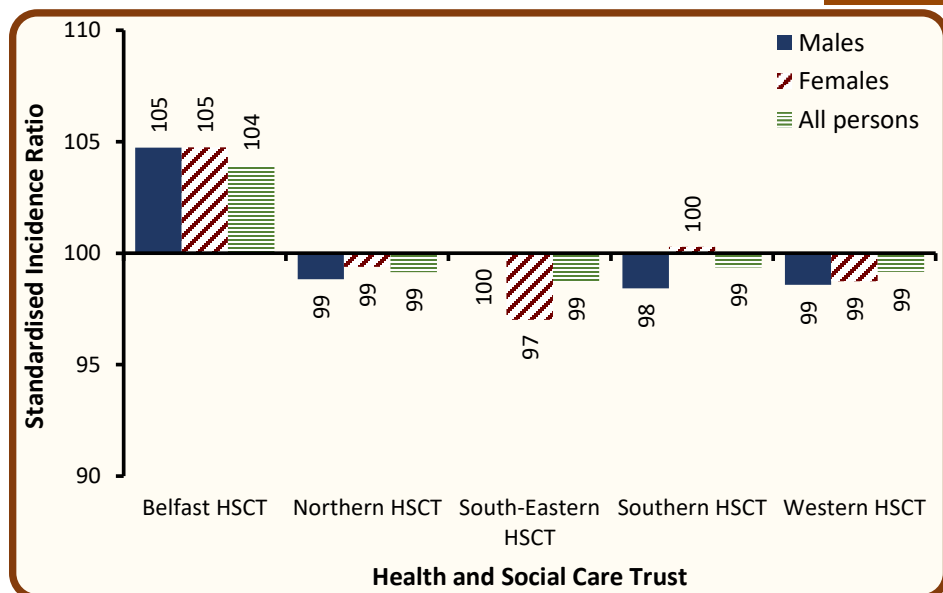
## Incidence by Health and Social Care Trust (HSCT) - All cancers, Cases in 2015-2019

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 were significantly higher than 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		
	Male	Female	Both sexes
Belfast HSCT	1,332	1,313	2,645
Northern HSCT	1,913	1,724	3,637
South-Eastern HSCT	1,524	1,329	2,853
Southern HSCT	1,340	1,221	2,561
Western HSCT	1,135	985	2,119
<b>Northern Ireland</b>	<b>7,244</b>	<b>6,574</b>	<b>13,818</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)

## Prevalence

▪ At the end of 2019, there were 101,423 people (Males: 47,996; Females: 53,427) living with cancer who had been diagnosed with the disease during 1995-2019.

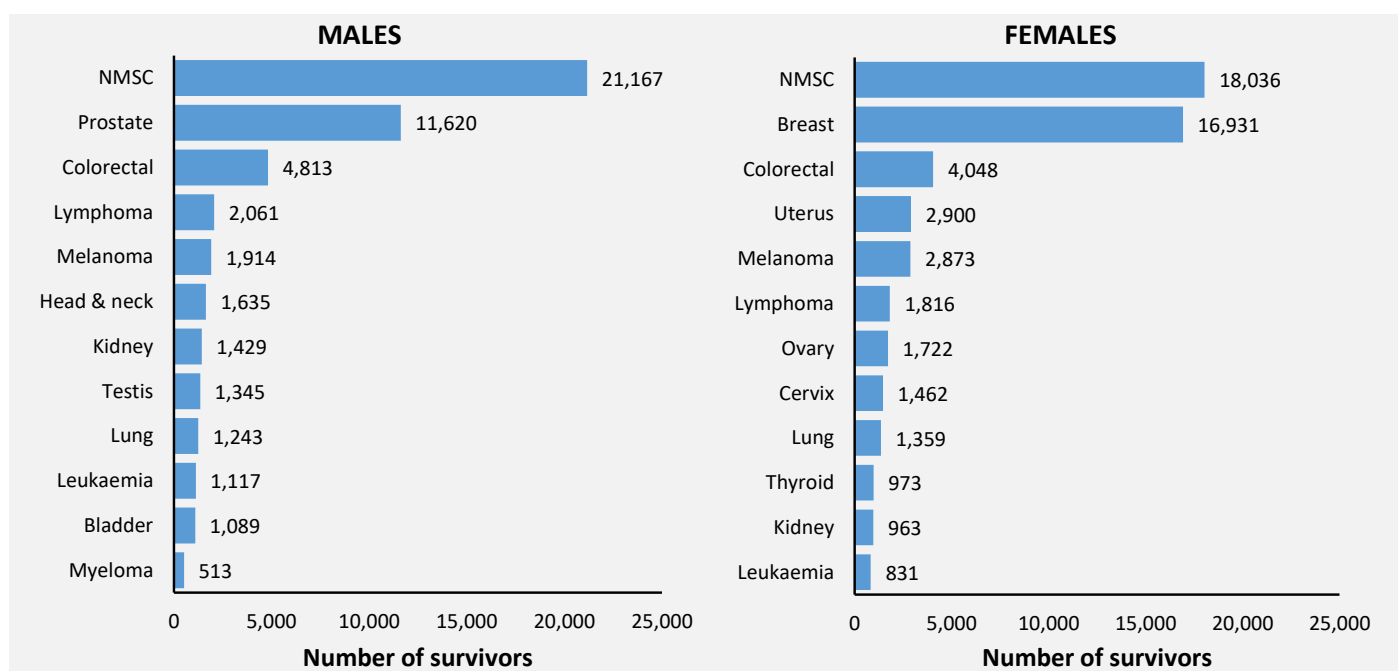
▪ Of these, 47.3% were male, 38.7% were aged 75 and over, and 12.0% had been diagnosed in the previous year.

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		
	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes
0-1 year	4,068	3,856	7,924	2,353	1,890	4,243	6,421	5,746	12,167
1-5 years	10,122	10,888	21,010	6,607	5,448	12,055	16,729	16,336	33,065
5-10 years	7,267	8,672	15,939	5,150	5,037	10,187	12,417	13,709	26,126
10-25 years	6,737	10,517	17,254	5,692	7,119	12,811	12,429	17,636	30,065
<b>0-25 years</b>	<b>28,194</b>	<b>33,933</b>	<b>62,127</b>	<b>19,802</b>	<b>19,494</b>	<b>39,296</b>	<b>47,996</b>	<b>53,427</b>	<b>101,423</b>

### 25-year prevalence by cancer type - All cancers, Patients alive at end of 2019

The most prevalent cancer types among male survivors at the end of 2019, were non-melanoma skin cancer (21,167 survivors) and prostate cancer (11,620 survivors), while the most prevalent cancer types among female survivors were non-melanoma skin cancer (18,036 survivors) and breast cancer (16,931 survivors).



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

▪ Among males the number of survivors from cancer who had been diagnosed within the previous ten years increased by 16.7% from 30,471 survivors in 2014 to 35,567 survivors in 2019.

▪ Among females the number of survivors from cancer who had been diagnosed within the previous ten years increased by 14.0% from 31,390 survivors in 2014 to 35,791 survivors in 2019.

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Male	25,248	26,689	28,050	29,265	30,471	31,540	32,632	33,611	34,584	35,567
Female	27,025	28,196	29,428	30,518	31,390	32,429	33,403	34,179	35,017	35,791
Both sexes	52,273	54,885	57,478	59,783	61,861	63,969	66,035	67,790	69,601	71,358

# Mortality

During 2015-2019 there were 2,349 male and 2,108 female deaths from cancer each year.

## Deaths by age at death - All cancers, Deaths in 2015-2019

- The median age at death during 2015-2019 was 75 for men and 75 for women.
- The risk of death from cancer was strongly related to patient age, with 50.7% of men and 51.9% of women aged 75 years or more at time of death.
- 7.9% of cancer deaths occurred among those aged under 55.

Age at death	Average deaths per year		
	Male	Female	Both sexes
0 - 54	166	185	353
55 - 64	328	295	623
65 - 74	664	531	1,195
75 +	1,190	1,095	2,284
<b>All ages</b>	<b>2,349</b>	<b>2,108</b>	<b>4,456</b>

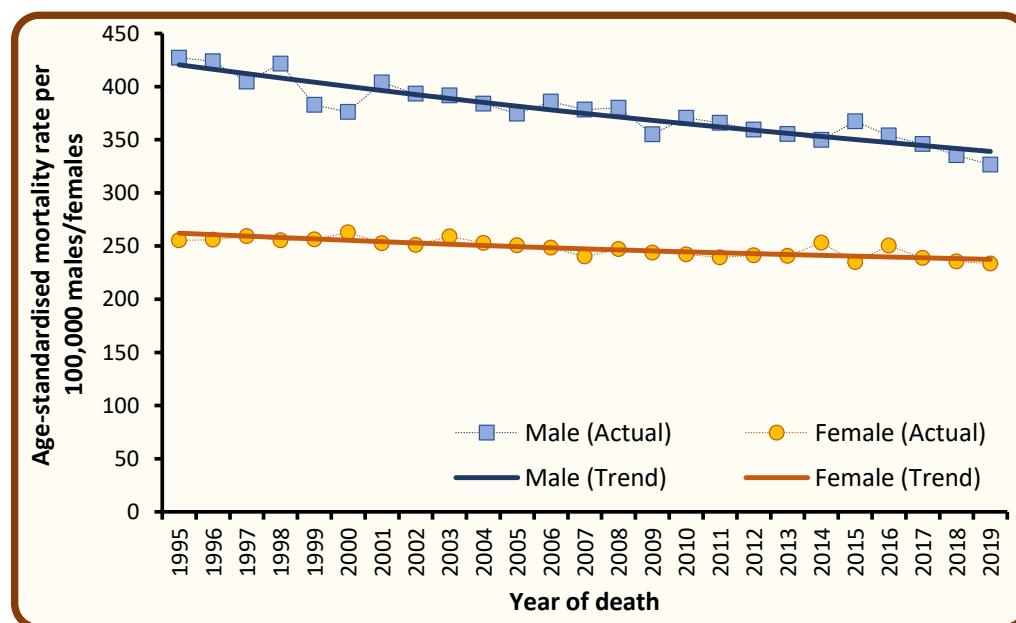
## Deaths by year of death - All cancers, Deaths in 2010-2019

- Among males the number of deaths from cancer increased by 8.0% from an annual average of 2,174 deaths in 2010-2014 to 2,349 deaths in 2015-2019.
- Among females the number of deaths from cancer increased by 6.5% from an annual average of 1,979 deaths in 2010-2014 to 2,108 deaths in 2015-2019.

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
<b>Male</b>	2,128	2,144	2,163	2,215	2,221	2,369	2,354	2,362	2,329	2,329
<b>Female</b>	1,907	1,913	1,964	1,985	2,127	2,008	2,173	2,112	2,112	2,134
<b>Both sexes</b>	4,035	4,057	4,127	4,200	4,348	4,377	4,527	4,474	4,441	4,463

## Trends in age-standardised mortality rates - All cancers, Deaths in 1995-2019

- Among males age-standardised mortality rates from cancer decreased by 4.1% between 2010-2014 and 2015-2019 from 360.0 to 345.4 deaths per 100,000 persons years. This difference was statistically significant.
- Among females age-standardised mortality rates from cancer decreased by 2.0% between 2010-2014 and 2015-2019 from 243.4 to 238.6 deaths per 100,000 persons years. This difference was not statistically significant.



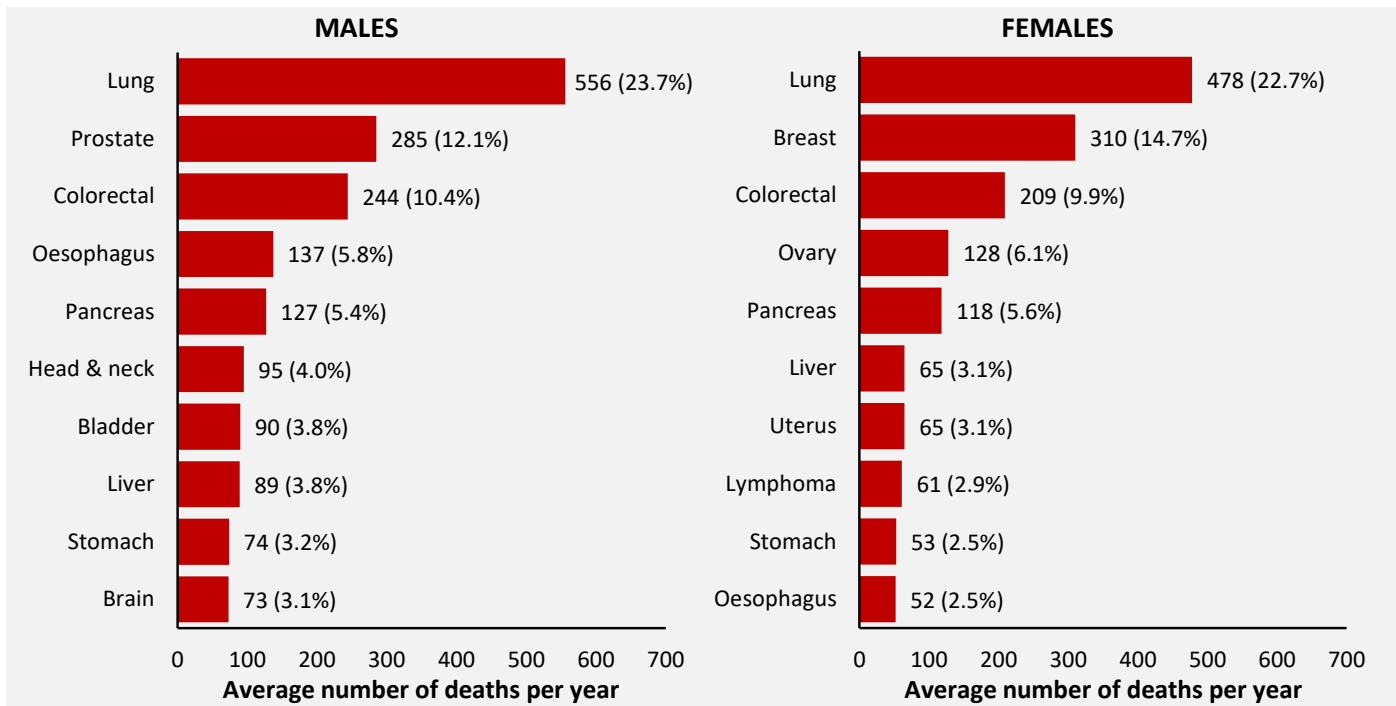
Mortality data are provided by the Northern Ireland General Registrar Office via the Department of Health.

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.

## Deaths by cancer type - All cancers, Deaths in 2015-2019

The most common causes of cancer death among men, were lung cancer (23.7%), prostate cancer (12.1%) and colorectal cancer (10.4%), while the most common cause of cancer death among women were lung cancer (22.7%), breast cancer (14.7%) and colorectal cancer (9.9%).



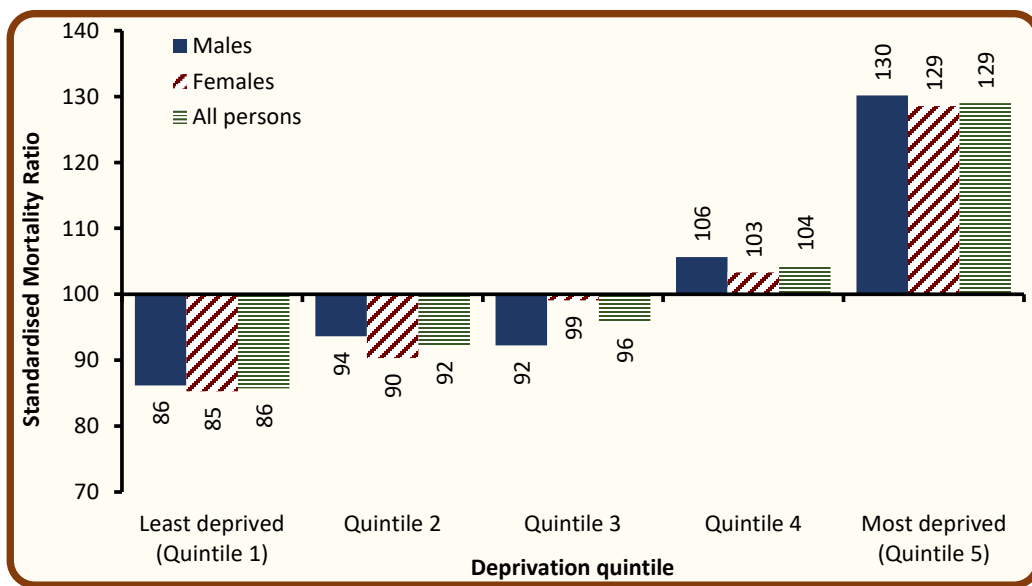
## Deaths by deprivation quintile - All cancers, Deaths in 2015-2019

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

After accounting for these factors, mortality rates:

- in the most socio-economically deprived areas were 29.0% higher than the NI average.
- in the least socio-economically deprived areas were 14.3% lower than the NI average.

Deprivation quintile	Average deaths per year		
	Male	Female	Both sexes
Least deprived (Quintile 1)	435	391	826
Quintile 2	468	397	866
Quintile 3	463	433	897
Quintile 4	493	438	931
Most deprived (Quintile 5)	488	446	934
Northern Ireland	2,349	2,108	4,456



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

A value above 100 means that mortality 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.



## 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. colorectal 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 EUROCORE, 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.