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# All cancers

Patients diagnosed 1993-2020  
(ICD10: C00-C97)

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## 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 2016-2020:

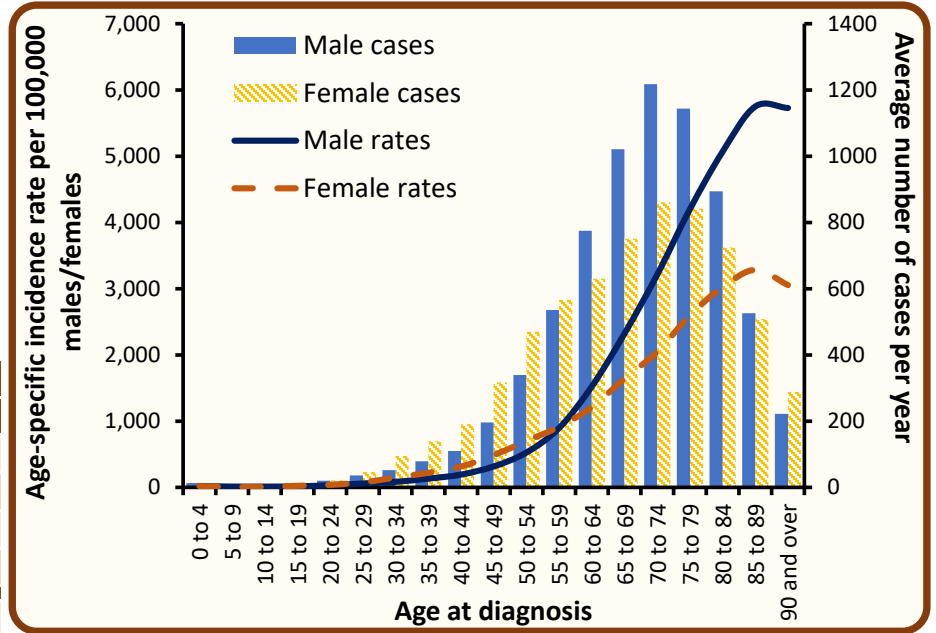
- There were 7,202 male and 6,482 female cases of cancer diagnosed each year.
- There were 778.0 male and 678.7 female cases of cancer per 100,000 males/females in the population.
- The risk of developing cancer before the age of 75 was 1 in 2.7 for men and 1 in 3.1 for women, while before the age of 85 the risk was 1 in 1.7 for men and 1 in 2.0 for women.

## Incidence by age at diagnosis - All cancers, Cases in 2016-2020

During 2016-2020:

- The median age at diagnosis was 71 for men and 69 for women.
- Cancer risk increased with age, with 38.7% of men and 36.4% of women aged 75 years or more at diagnosis.
- 15.9% of cases were diagnosed among those aged under 55.

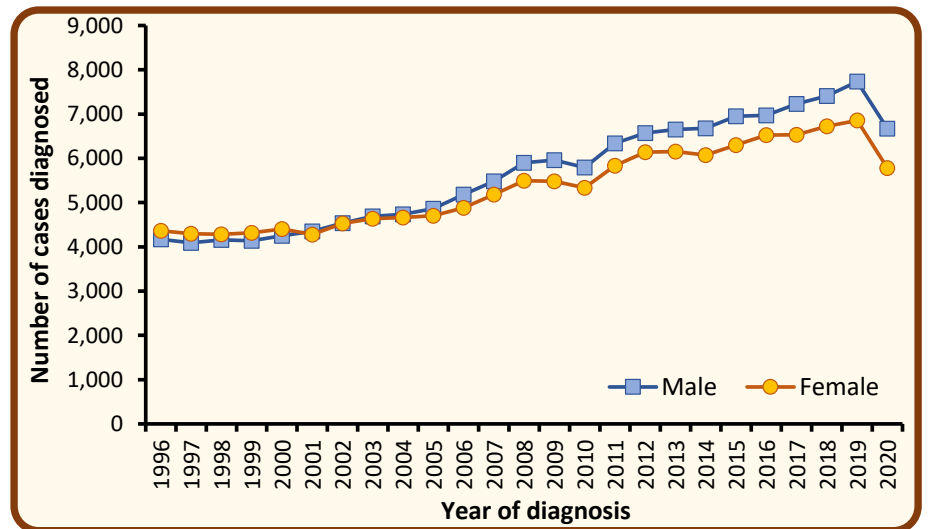
Age at diagnosis	Average cases per year		
	Male	Female	Both sexes
0 - 54	869	1,313	2,182
55 - 64	1,311	1,196	2,507
65 - 74	2,238	1,612	3,848
75 +	2,786	2,361	5,146
<b>All ages</b>	<b>7,202</b>	<b>6,482</b>	<b>13,684</b>



## Incidence by year of diagnosis - All cancers, Cases in 1996-2020

- Among males the number of cases of cancer increased by 8.5% from an annual average of 6,637 cases in 2011-2015 to 7,202 cases in 2016-2020.
- Among females the number of cases of cancer increased by 6.3% from an annual average of 6,099 cases in 2011-2015 to 6,482 cases in 2016-2020.

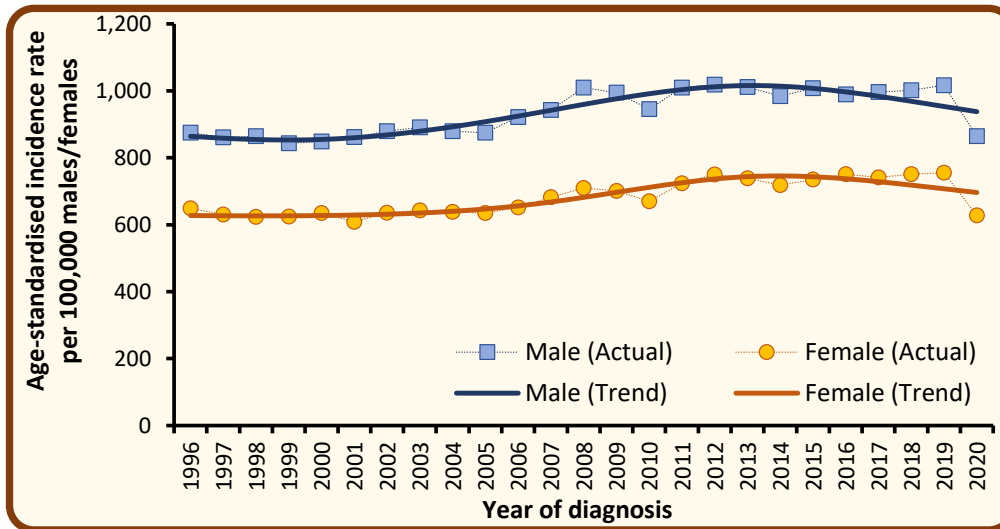
Year of diagnosis	Male	Female	Both sexes
2011	6,338	5,834	12,172
2012	6,574	6,138	12,712
2013	6,651	6,149	12,800
2014	6,675	6,074	12,749
2015	6,948	6,299	13,247
2016	6,970	6,526	13,496
2017	7,227	6,528	13,755
2018	7,411	6,725	14,136
2019	7,732	6,855	14,587
2020	6,668	5,777	12,445



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 1996-2020

- Among males age-standardised incidence rates of cancer decreased by 3.4% from 1,005.9 per 100,000 person years in 2011-2015 to 972.0 cases per 100,000 persons years in 2016-2020. This difference was statistically significant.
- Among females age-standardised incidence rates of cancer decreased by 1.2% from 733.2 per 100,000 person years in 2011-2015 to 724.4 cases per 100,000 persons years in 2016-2020. This difference was not 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 1996-2020

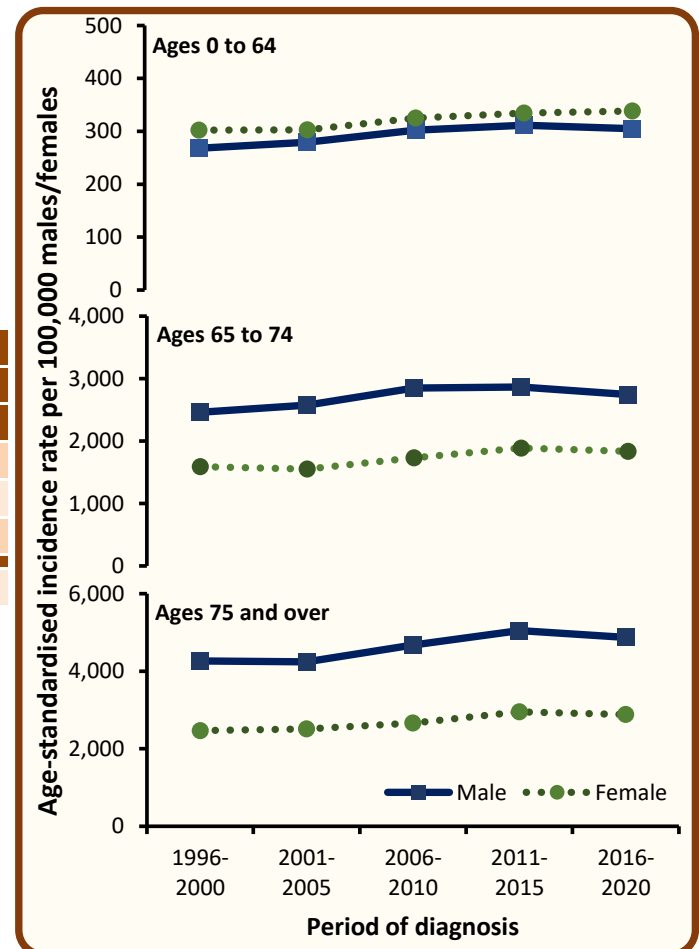
For the total number of cases recorded, between 2011-2015 and 2016-2020 there was:

- an increase of 4.2% among males aged 0 to 64, an increase of 7.3% among males aged 65 to 74 and an increase of 13.3% among males aged 75 and over.
- an increase of 7.3% among females aged 0 to 64, an increase of 5.8% among females aged 65 to 74 and an increase of 5.5% among females aged 75 and over.

Age group	Average cases per year			
	2011-2015		2016-2020	
	Male	Female	Male	Female
0 to 64	2,092	2,338	2,179	2,509
65 to 74	2,086	1,523	2,238	1,611
75 and over	2,459	2,238	2,785	2,362
<b>All ages</b>	<b>6,637</b>	<b>6,099</b>	<b>7,202</b>	<b>6,482</b>

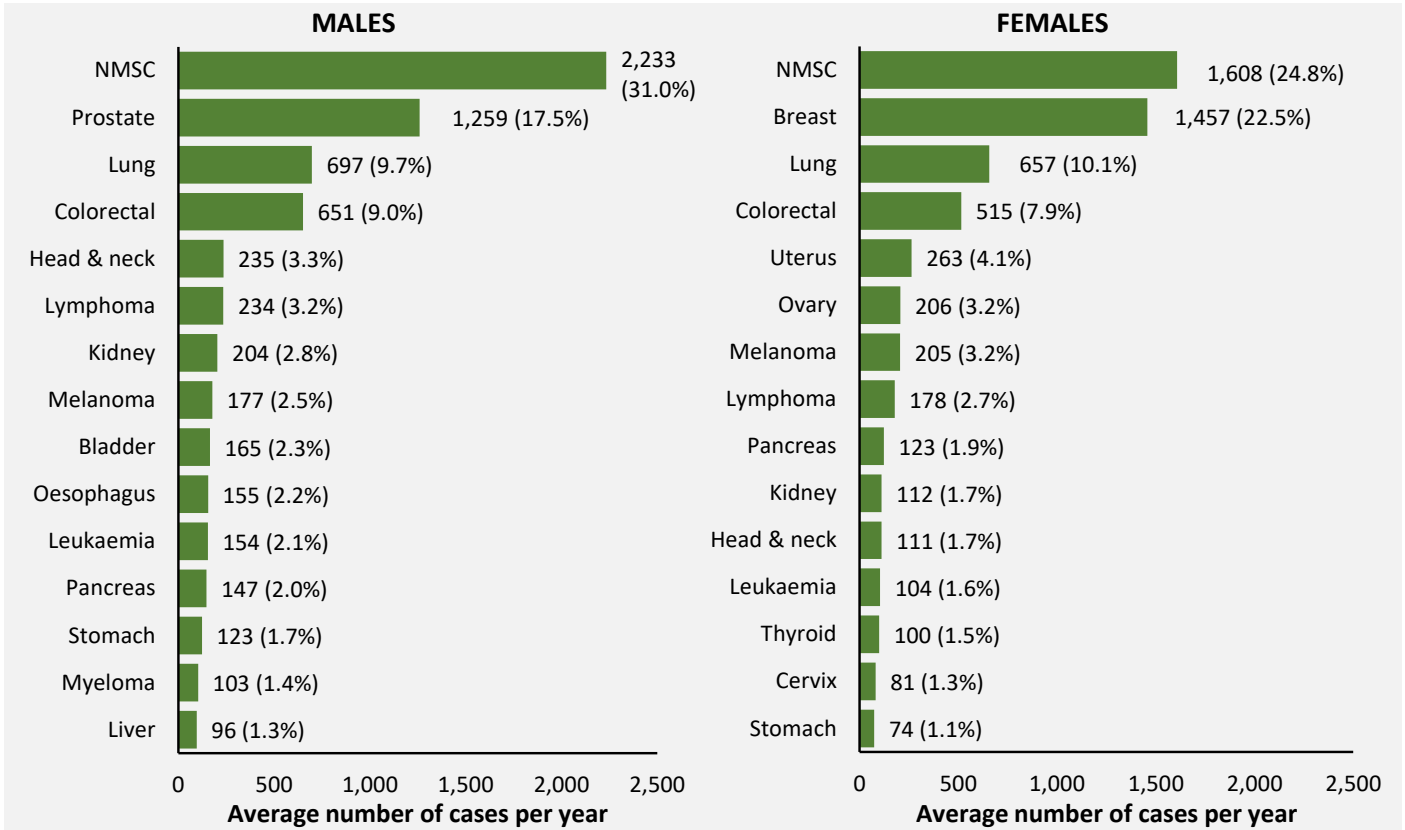
For age-standardised incidence rates, between 2011-2015 and 2016-2020 there was:

- no significant change among males aged 0 to 64, a decrease of 4.2% among males aged 65 to 74 and a decrease of 3.5% among males aged 75 and over.
- no significant change 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.



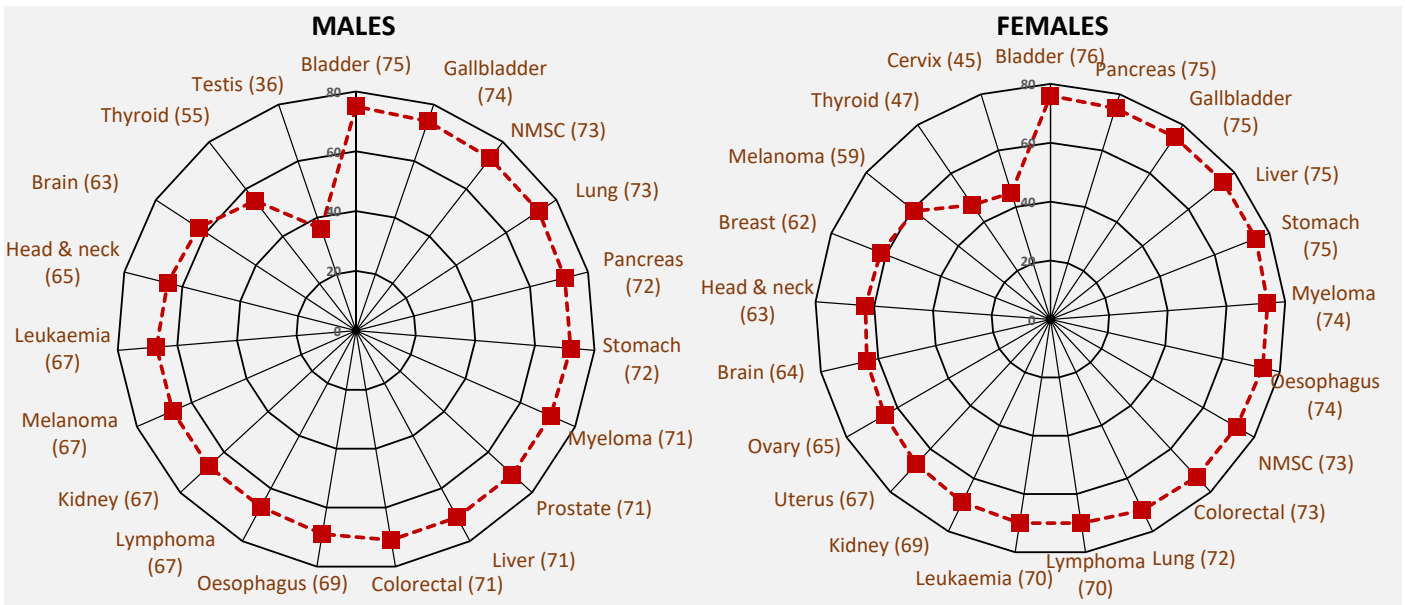
## Incidence by cancer type - All cancers, Cases in 2016-2020

The most common cancer types among men were non-melanoma skin cancer (31.0%), prostate cancer (17.5%), lung cancer (9.7%) and colorectal cancer (9.0%), while the most common cancer types among women were non-melanoma skin cancer (24.8%), breast cancer (22.5%), lung cancer (10.1%) and colorectal cancer (7.9%).



## Median age at diagnosis by cancer type - All cancers, Cases in 2016-2020

The median age at diagnosis for most cancer types during 2016-2020 was 60 years or more. Exceptions include testicular cancer (36) and thyroid cancer (55) among males, and cervical cancer (45), thyroid cancer (47) and melanoma (59) among females.



NMSC: Non-melanoma skin cancer

## Incidence by deprivation quintile - All cancers, Cases in 2016-2020

The annual number of cases during 2016-2020 varied in each deprivation quintile due to variations in population size and age.

After accounting for these factors, incidence rates:

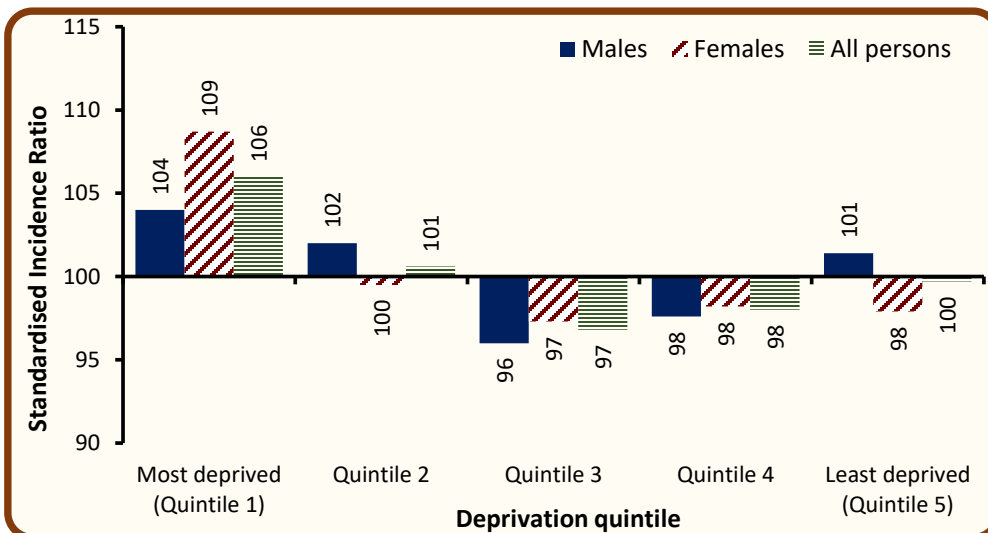
- in the least socio-economically deprived areas did not vary significantly from the NI average.
- in the most socio-economically deprived areas were 6.0% higher than the NI average.

Deprivation quintile	Average cases per year		
	Male	Female	Both sexes
Most deprived (Quintile 1)	1,210	1,183	2,394
Quintile 2	1,464	1,295	2,759
Quintile 3	1,477	1,310	2,787
Quintile 4	1,504	1,339	2,843
Least deprived (Quintile 5)	1,546	1,353	2,899
<b>Northern Ireland</b>	<b>7,202</b>	<b>6,482</b>	<b>13,684</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.



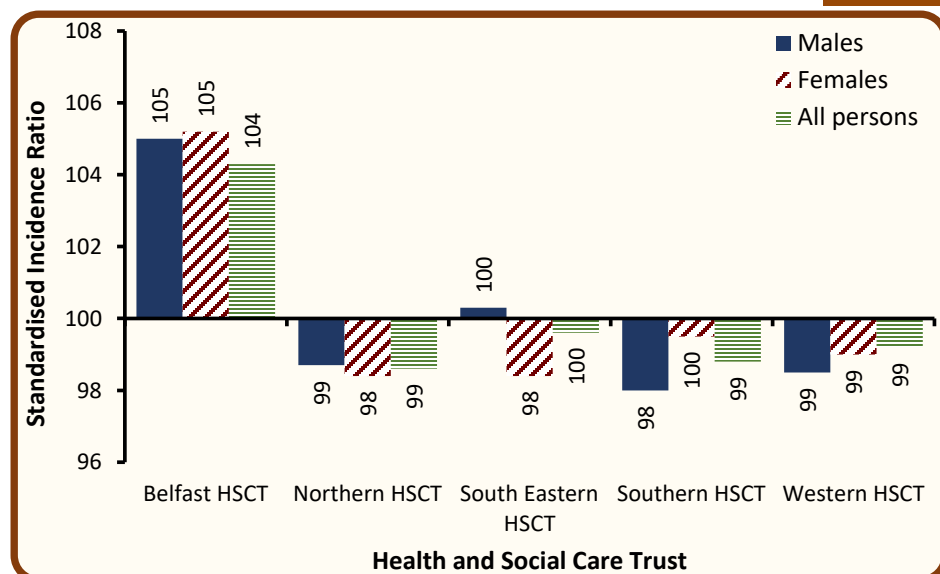
## Incidence by Health and Social Care Trust (HSCT) - All cancers, Cases in 2016-2020

The annual number of cases during 2016-2020 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	1,318	1,289	2,607
Northern HSCT	1,899	1,683	3,582
South Eastern HSCT	1,523	1,333	2,856
Southern HSCT	1,331	1,200	2,530
Western HSCT	1,130	976	2,105
<b>Northern Ireland</b>	<b>7,202</b>	<b>6,482</b>	<b>13,684</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

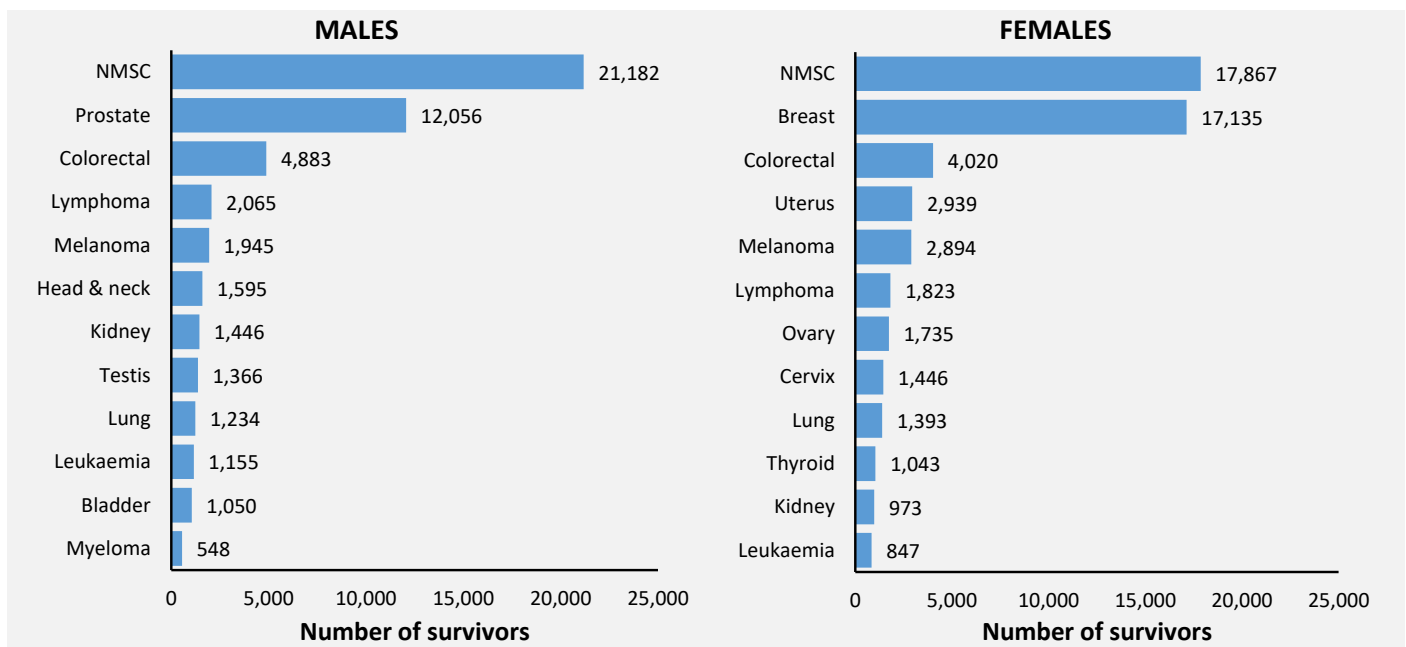
- At the end of 2020, there were 102,027 people (Males: 48,407; Females: 53,620) living with cancer who had been diagnosed with the disease during 1996-2020.
- Of these, 47.4% were male, 38.9% were aged 75 and over, and 9.9% had been diagnosed in the previous year.

25-year prevalence refers to the number of cancer survivors who were alive at the end of 2020, and had been diagnosed with their cancer in the previous 25 years (i.e. 1996-2020).

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	3,360	3,144	6,504	1,997	1,554	3,551	5,357	4,698	10,055
1-5 years	10,615	11,240	21,855	6,752	5,642	12,394	17,367	16,882	34,249
5-10 years	7,467	8,912	16,379	5,541	5,174	10,715	13,008	14,086	27,094
10-25 years	6,870	10,718	17,588	5,805	7,236	13,041	12,675	17,954	30,629
0-25 years	28,312	34,014	62,326	20,095	19,606	39,701	48,407	53,620	102,027

### 25-year prevalence by cancer type - All cancers, Patients alive at end of 2020

The most prevalent cancer types among male survivors at the end of 2020, were non-melanoma skin cancer (21,182 survivors) and prostate cancer (12,056 survivors), while the most prevalent cancer types among female survivors were non-melanoma skin cancer (17,867 survivors) and breast cancer (17,135 survivors).



### Trends in 10-year prevalence - All cancers, Patients alive at end of each year from 2011-2020

- Among males the number of survivors from cancer who had been diagnosed within the previous ten years increased by 13.5% from 31,477 survivors in 2015 to 35,732 survivors in 2020.
- Among females the number of survivors from cancer who had been diagnosed within the previous ten years increased by 10.1% from 32,395 survivors in 2015 to 35,666 survivors in 2020.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	26,558	27,939	29,174	30,393	31,477	32,579	33,569	34,562	35,592	35,732
Female	28,117	29,368	30,466	31,352	32,395	33,376	34,163	35,015	35,829	35,666
Both sexes	54,675	57,307	59,640	61,745	63,872	65,955	67,732	69,577	71,421	71,398

# Mortality

During 2016-2020 there were 2,360 male and 2,140 female deaths from cancer each year.

## Deaths by age at death - All cancers, Deaths in 2016-2020

- The median age at death during 2016-2020 was 75 for men and 75 for women.
- The risk of death from cancer was strongly related to patient age, with 51.2% of men and 52.7% of women aged 75 years or more at time of death.
- 7.6% of cancer deaths occurred among those aged under 55.

Age at death	Average deaths per year		
	Male	Female	Both sexes
0 - 54	160	179	340
55 - 64	323	303	626
65 - 74	670	530	1,200
75 +	1,208	1,127	2,335
<b>All ages</b>	<b>2,360</b>	<b>2,140</b>	<b>4,501</b>

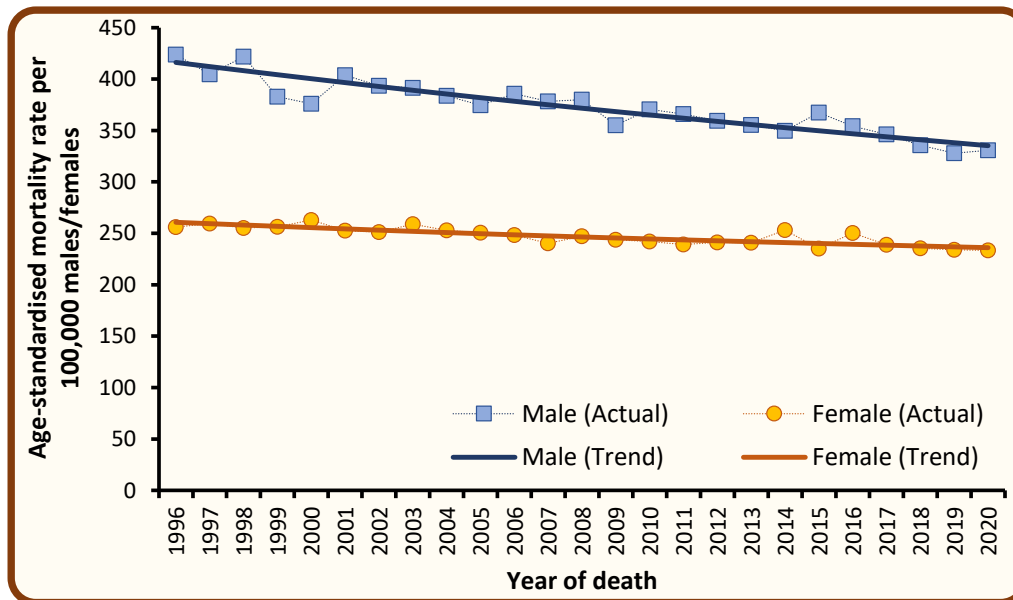
## Deaths by year of death - All cancers, Deaths in 2011-2020

- Among males the number of deaths from cancer increased by 6.2% from an annual average of 2,222 deaths in 2011-2015 to 2,360 deaths in 2016-2020.
- Among females the number of deaths from cancer increased by 7.1% from an annual average of 1,999 deaths in 2011-2015 to 2,140 deaths in 2016-2020.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	2,144	2,163	2,215	2,221	2,369	2,355	2,363	2,330	2,339	2,415
Female	1,913	1,964	1,985	2,127	2,008	2,173	2,112	2,112	2,138	2,166
Both sexes	4,057	4,127	4,200	4,348	4,377	4,528	4,475	4,442	4,477	4,581

## Trends in age-standardised mortality rates - All cancers, Deaths in 1996-2020

- Among males age-standardised mortality rates from cancer decreased by 5.8% between 2011-2015 and 2016-2020 from 359.7 to 338.7 deaths per 100,000 persons years. This difference was statistically significant.
- Among females age-standardised mortality rates from cancer decreased by 1.4% between 2011-2015 and 2016-2020 from 241.9 to 238.4 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.

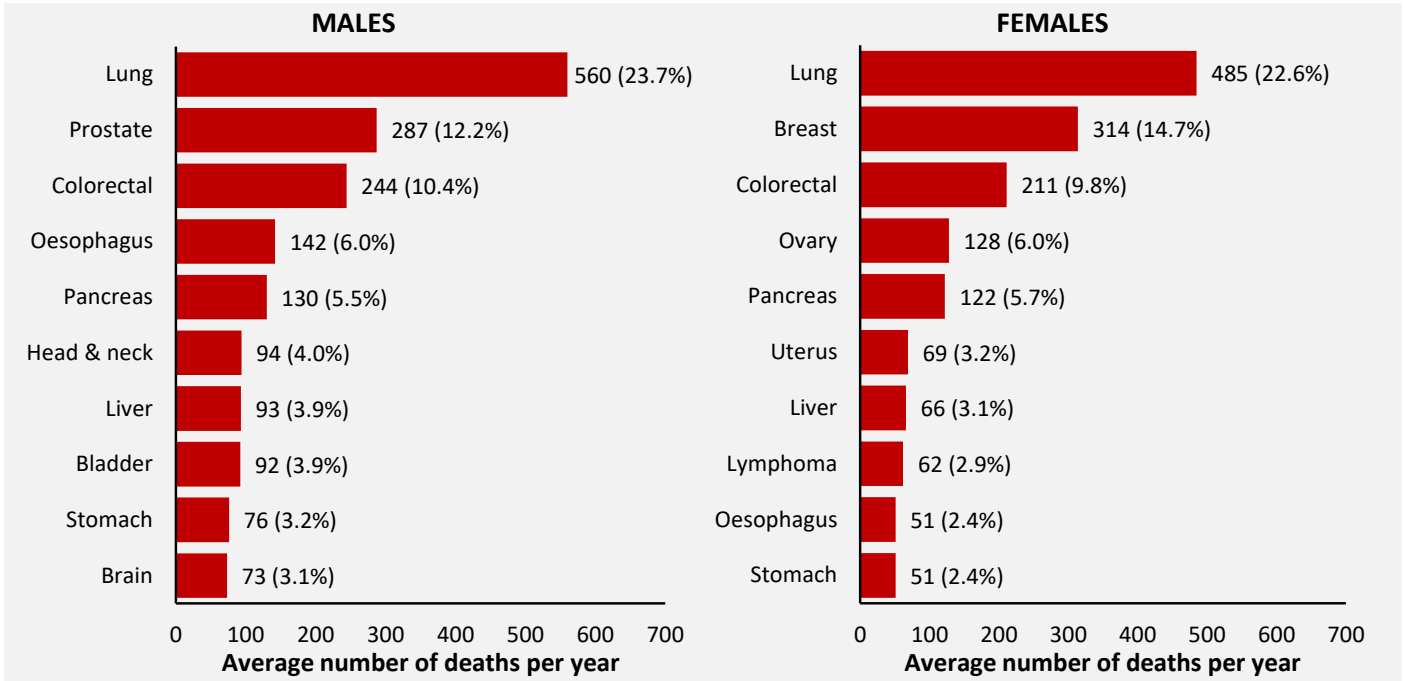
Counts of the number of deaths are based upon the year that death occurred, and upon the primary cause of death only.

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



## Deaths by cancer type - All cancers, Deaths in 2016-2020

The most common causes of cancer death among men, were lung cancer (23.7%), prostate cancer (12.2%) and colorectal cancer (10.4%), while the most common causes of cancer death among women were lung cancer (22.6%), breast cancer (14.7%) and colorectal cancer (9.8%).



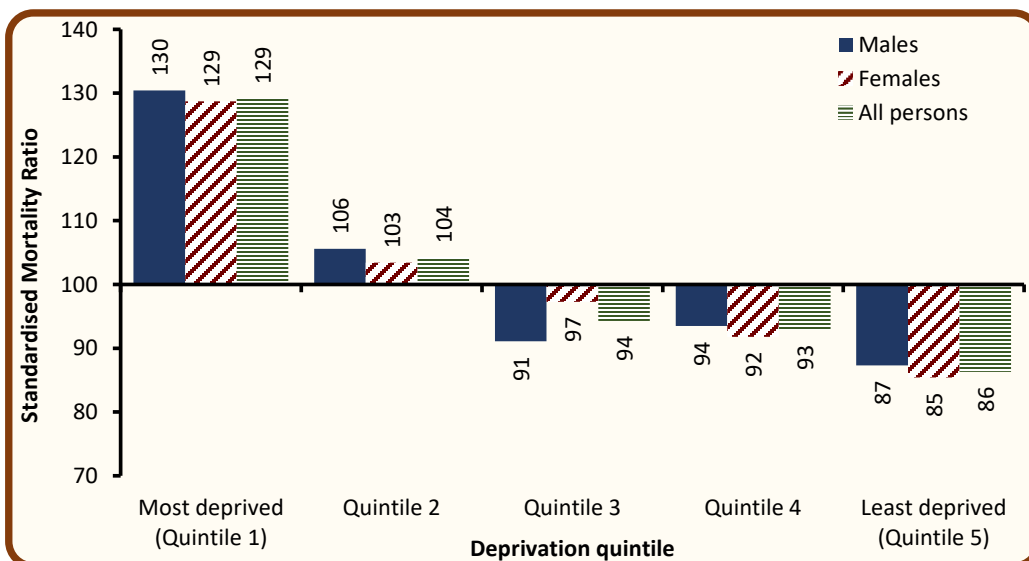
## Deaths by deprivation quintile - All cancers, Deaths in 2016-2020

The annual number of deaths during 2016-2020 varied in each deprivation quintile due to variations in population size and age.

After accounting for these factors, mortality rates:

- in the least socio-economically deprived areas were 13.7% lower than the NI average.
- in the most socio-economically deprived areas were 29.2% higher than the NI average.

Deprivation quintile	Average deaths per year		
	Male	Female	Both sexes
Most deprived (Quintile 1)	488	451	939
Quintile 2	494	445	939
Quintile 3	461	433	894
Quintile 4	471	412	883
Least deprived (Quintile 5)	444	399	842
<b>Northern Ireland</b>	<b>2,360</b>	<b>2,140</b>	<b>4,501</b>



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 2020 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.