All cancers

(excluding non-melanoma skin cancer)

Patients diagnosed 1993-2020
(ICD10: C00-C43, C45-C97)

Further information

Further data is available at: **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 2016-2020:

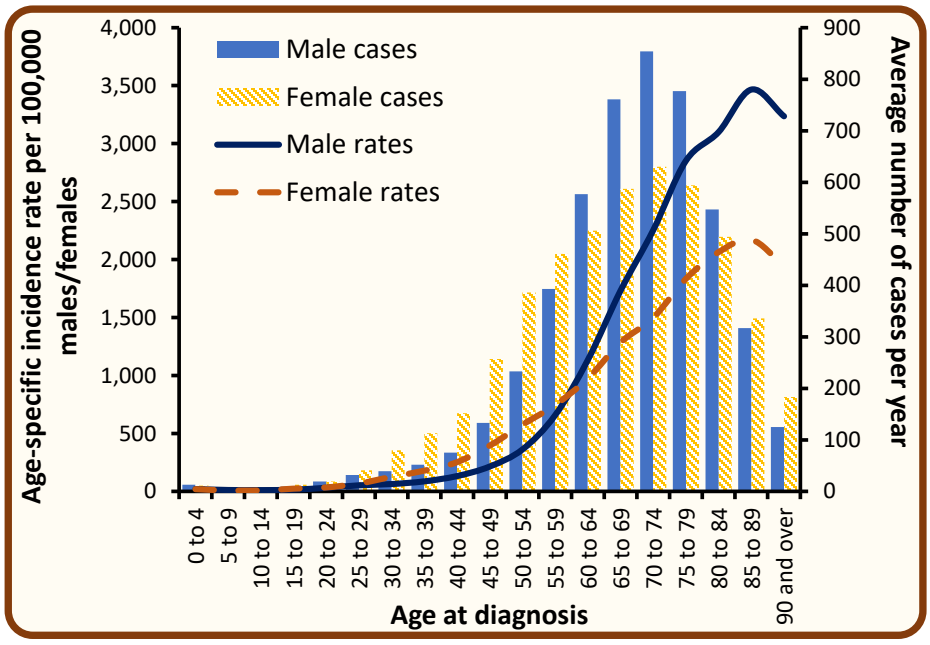
- There were 4,968 male and 4,874 female cases of cancer (ex NMSC) diagnosed each year.
- Cancer (ex NMSC) made up 69.0% of all male cancers, and 75.2% of all female cancers.
- The risk of developing cancer (ex NMSC) before the age of 75 was 1 in 3.5 for men and 1 in 3.8 for women, while before the age of 85 the risk was 1 in 2.1 for men and 1 in 2.5 for women.

Incidence by age at diagnosis - *All cancers (ex NMSC), Cases in 2016-2020*

During 2016-2020:

- The median age at diagnosis was 70 for men and 68 for women.
- Cancer risk increased with age, with 35.5% of men and 33.0% of women aged 75 years or more at diagnosis.
- 17.3% of cases were diagnosed among those aged under 55.

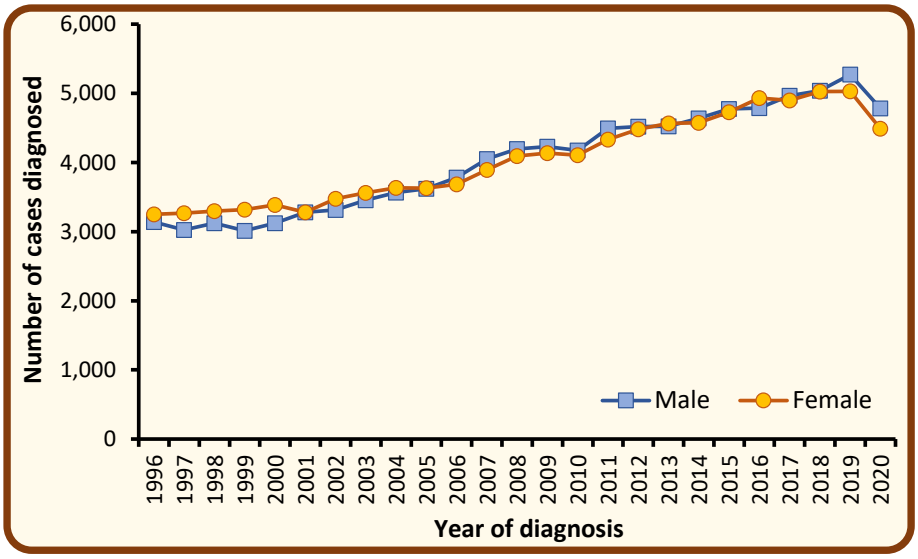
Age at diagnosis	Average cases per year		
	Male	Female	Both sexes
0 - 54	620	1,082	1,702
55 - 64	970	967	1,937
65 - 74	1,615	1,217	2,832
75 +	1,766	1,607	3,372
All ages	4,968	4,874	9,843



Incidence by year of diagnosis - *All cancers (ex NMSC), Cases in 1996-2020*

- Among males the number of cases of cancer (ex NMSC) increased by 8.3% from an annual average of 4,589 cases in 2011-2015 to 4,968 cases in 2016-2020.
- Among females the number of cases of cancer (ex NMSC) increased by 7.5% from an annual average of 4,536 cases in 2011-2015 to 4,874 cases in 2016-2020.

Year of diagnosis	Male	Female	Both sexes
2011	4,494	4,333	8,827
2012	4,519	4,482	9,001
2013	4,523	4,565	9,088
2014	4,639	4,573	9,212
2015	4,772	4,726	9,498
2016	4,786	4,930	9,716
2017	4,964	4,897	9,861
2018	5,039	5,027	10,066
2019	5,270	5,028	10,298
2020	4,783	4,490	9,273

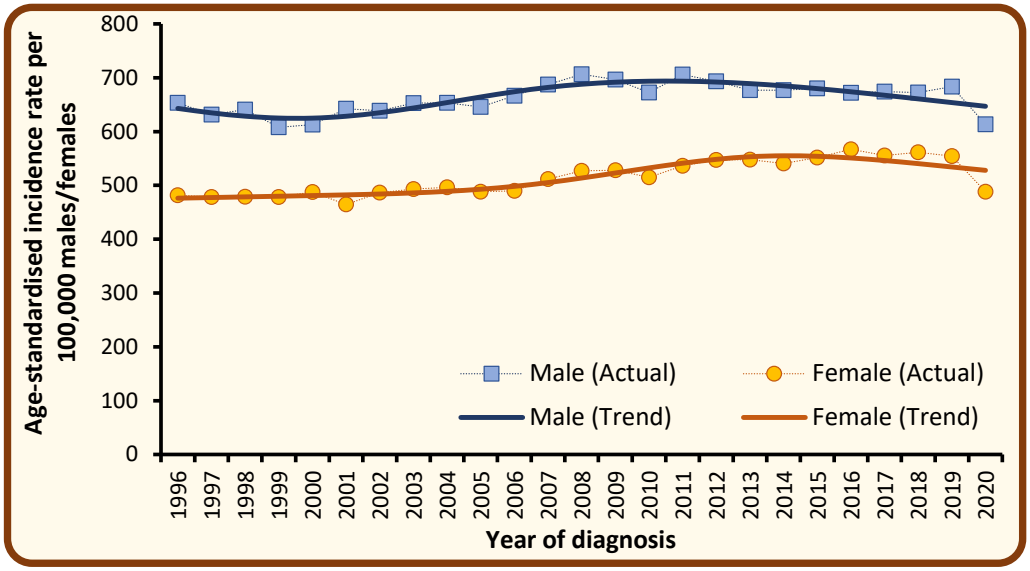


Note: Annual averages have been rounded to the nearest integer. Sums of numbers in table rows or columns may thus differ slightly from the given total.
NMSC: Non-melanoma skin cancer

Trends in age-standardised incidence rates - *All cancers (ex NMSC), Cases in 1996-2020*

▪ Among males age-standardised incidence rates of cancer (ex NMSC) decreased by 3.5% from 686.2 per 100,000 person years in 2011-2015 to 662.4 cases per 100,000 persons years in 2016-2020. This difference was statistically significant.

▪ Among females age-standardised incidence rates of cancer (ex NMSC) decreased by 0.02% from 544.9 per 100,000 person years in 2011-2015 to 544.8 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 (ex NMSC), Cases in 1996-2020*

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

▪ an increase of 3.5% among males aged 0 to 64, an increase of 9.3% among males aged 65 to 74 and an increase of 11.8% among males aged 75 and over.

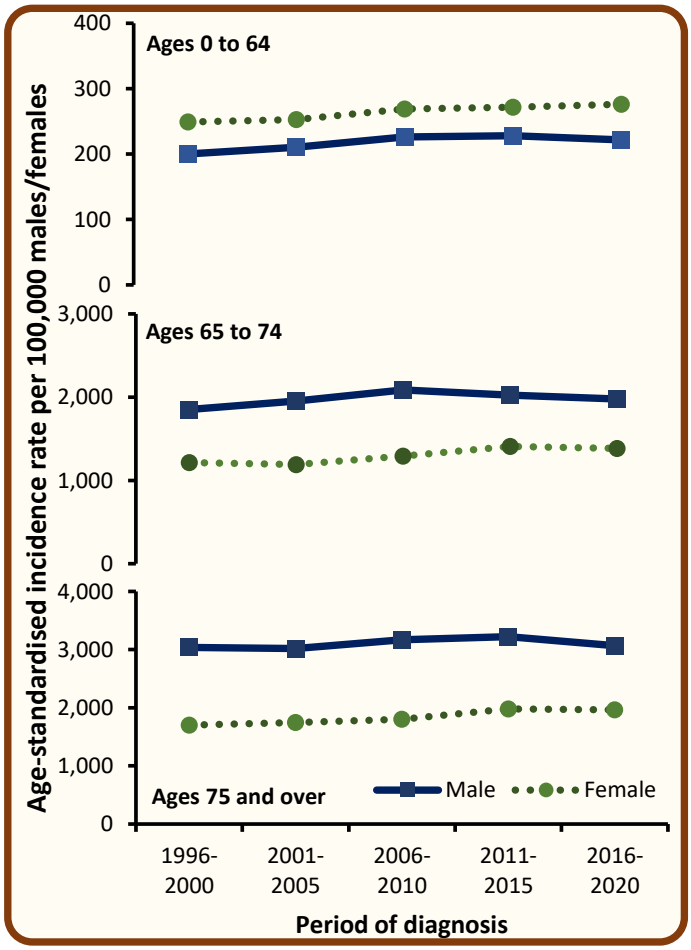
▪ an increase of 7.8% among females aged 0 to 64, an increase of 6.9% among females aged 65 to 74 and an increase of 7.3% among females aged 75 and over.

Age group	Average cases per year			
	2011-2015		2016-2020	
	Male	Female	Male	Female
0 to 64	1,534	1,901	1,588	2,050
65 to 74	1,477	1,138	1,615	1,217
75 and over	1,579	1,497	1,765	1,607
All ages	4,589	4,536	4,968	4,874

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

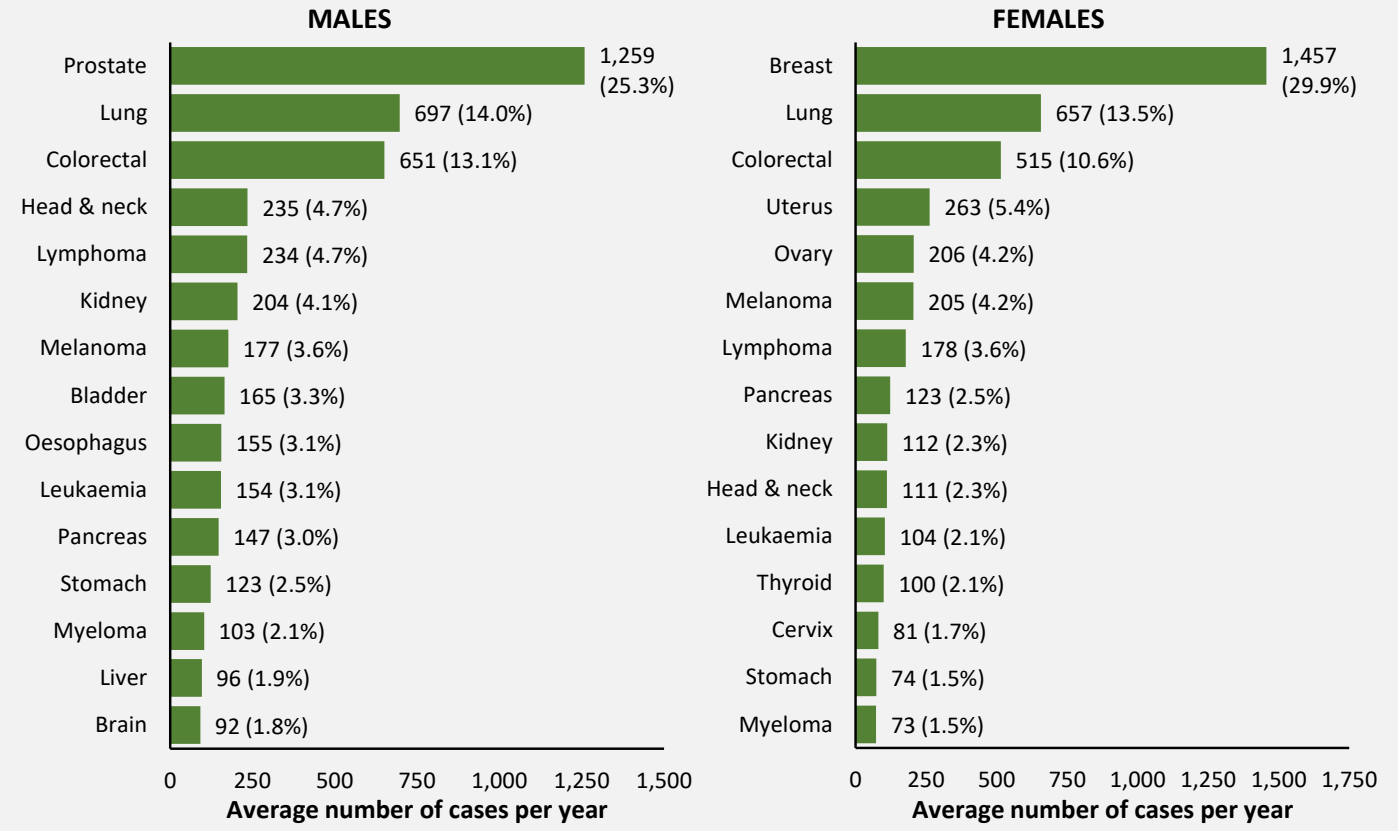
▪ no significant change among males aged 0 to 64, no significant change among males aged 65 to 74 and a decrease of 4.9% among males aged 75 and over.

▪ 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.



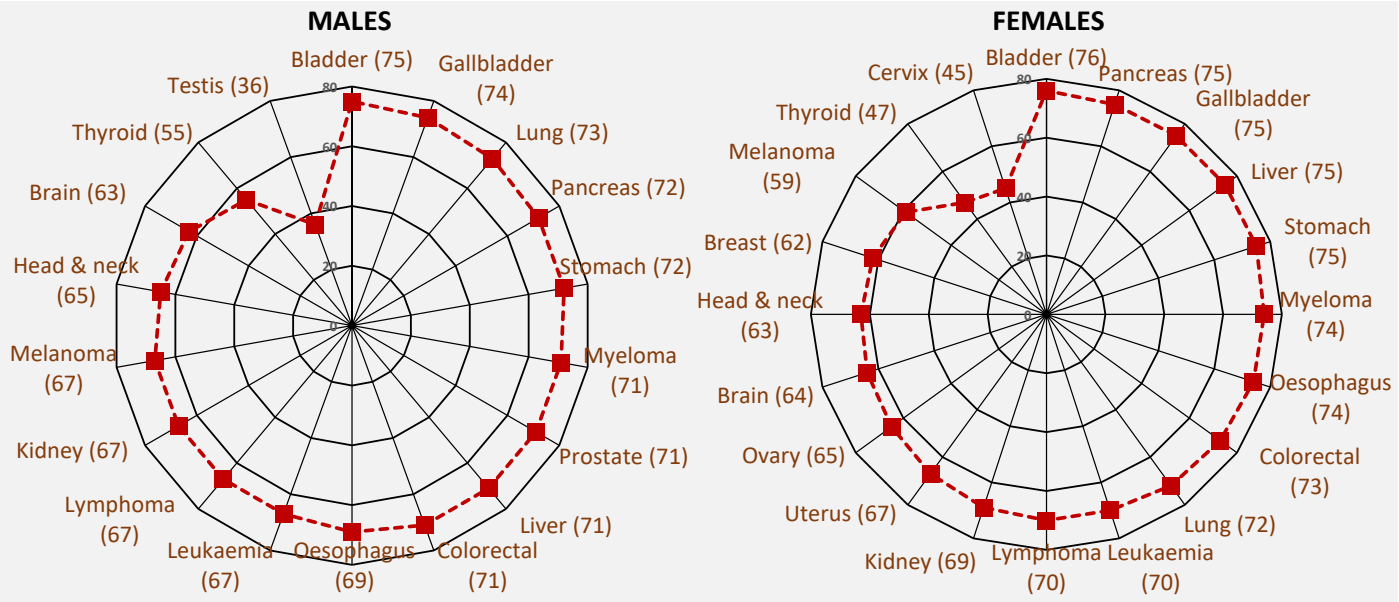
Incidence by cancer type - *All cancers (ex NMSC), Cases in 2016-2020*

The most common cancer types among men (excluding NMSC), were prostate cancer (25.3%), lung cancer (14.0%) and colorectal cancer (13.1%), while the most common cancer types among women (excluding NMSC) were breast cancer (29.9%), lung cancer (13.5%) and colorectal cancer (10.6%).



Median age at diagnosis by cancer type - *All cancers (ex NMSC), 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.



Incidence by deprivation quintile - *All cancers (ex NMSC), 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:

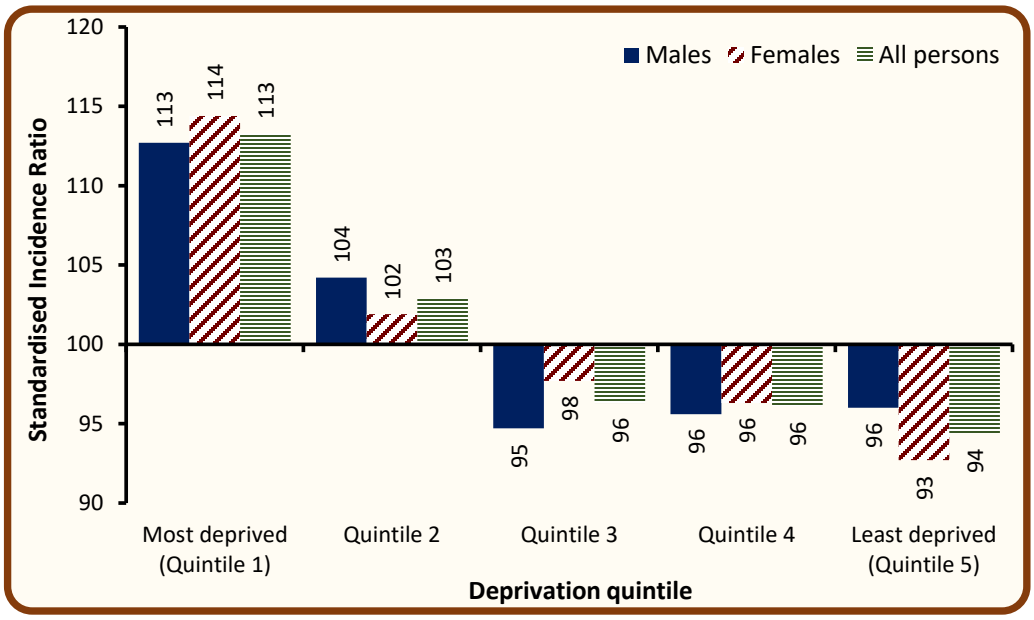
- in the least socio-economically deprived areas were 5.6% lower than the NI average.
- in the most socio-economically deprived areas were 13.3% higher than the NI average.

Deprivation quintile	Average cases per year		
	Male	Female	Both sexes
Most deprived (Quintile 1)	908	941	1,849
Quintile 2	1,032	997	2,029
Quintile 3	1,004	989	1,993
Quintile 4	1,017	988	2,005
Least deprived (Quintile 5)	1,006	959	1,965
Northern Ireland	4,968	4,874	9,843

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 cancer type and deprivation quintile - *All cancers (ex NMSC), Cases in 2016-2020*

While cancer incidence is higher in the most deprived communities overall, the relationship between cancer and socio-economic deprivation varies by cancer site. During 2016-2020:

- Incidence of head and neck cancer, oesophageal cancer, stomach cancer, liver cancer (male only), gallbladder cancer (female only), lung cancer, cervical cancer and unknown primary cancer was higher in the most deprived areas than the NI average.
- Incidence of melanoma (female only), prostate cancer and lymphoma (male only) was higher in the least deprived areas than the NI average.

Incidence rates higher in most deprived areas than NI average	Incidence rates higher in least deprived areas than NI average	Incidence rates not higher than the NI average in either the most or least deprived areas
▪ Head and neck cancer	▪ Melanoma (female only)	▪ Colorectal cancer
▪ Oesophageal cancer	▪ Prostate cancer	▪ Pancreatic cancer
▪ Stomach cancer	▪ Lymphoma (male only)	▪ Breast cancer
▪ Liver cancer (male only)		▪ Uterine cancer
▪ Gallbladder cancer (female only)		▪ Ovarian cancer (inc. fallopian tube)
▪ Lung cancer		▪ Testicular cancer
▪ Cervical cancer		▪ Kidney cancer
▪ Unknown primary cancer		▪ Bladder cancer
		▪ Brain cancer (inc. CNS)
		▪ Thyroid cancer
		▪ Myeloma (inc. plasma cell)
		▪ Leukaemia

Note. These cancers can still vary in other ways by deprivation quintile (e.g. by being higher than average in the middle deprivation quintile).

CNS: Central Nervous System

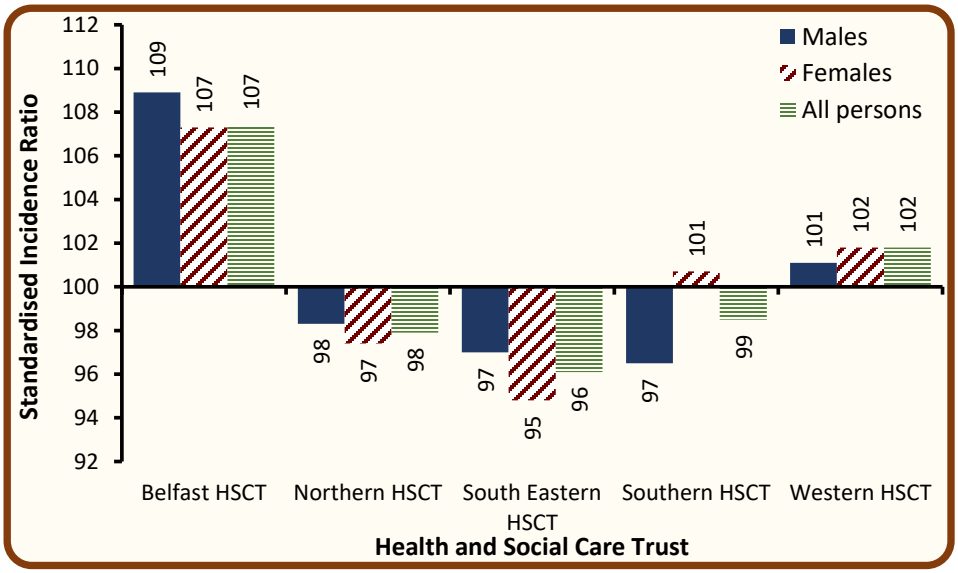
Incidence by Health and Social Care Trust (HSCT) - *All cancers (ex NMSC), Cases in 2016-2020*

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 were significantly lower than the NI average.
- in South-Eastern HSCT were significantly lower than 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	940	984	1,924
Northern HSCT	1,304	1,251	2,555
South Eastern HSCT	1,016	964	1,980
Southern HSCT	905	916	1,821
Western HSCT	802	758	1,560
Northern Ireland	4,968	4,874	9,843



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.

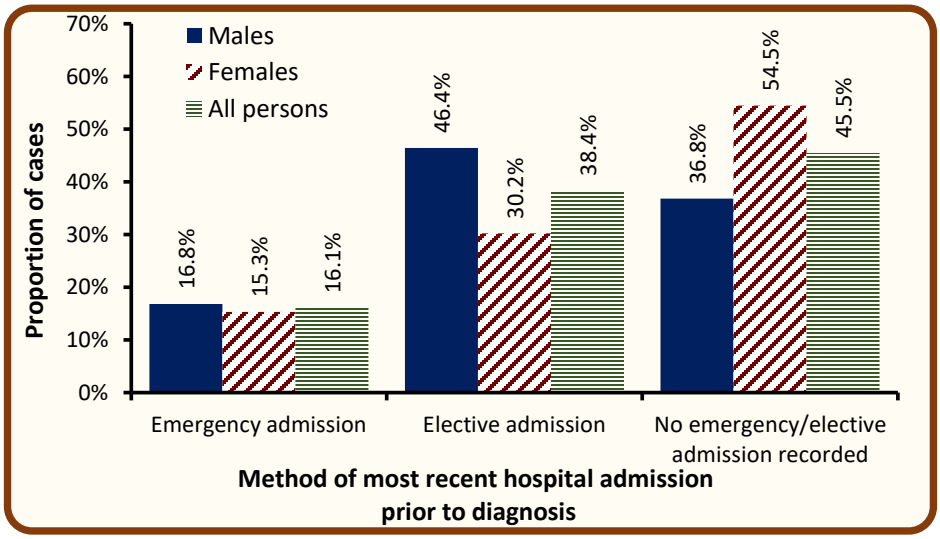
Data for Local Government Districts and Parliamentary Constituencies are available at www.qub.ac.uk/research-centres/nicr

Incidence by method of most recent admission to hospital - *All cancers (ex NMSC), Cases in 2016-2020*

During 2016-2020:

- 16.1% of cases had an emergency admission to hospital recorded within 30 days prior to their cancer diagnosis.
- 16.8% of male cases had an emergency admission up to 30 days prior to diagnosis, compared to 15.3% of female cases.

Method of admission	Average cases per year		
	Male	Female	Both sexes
Emergency admission	836	746	1,583
Elective admission	2,306	1,472	3,777
No emergency/elective admission recorded	1,826	2,656	4,483
Total	4,968	4,874	9,843



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.

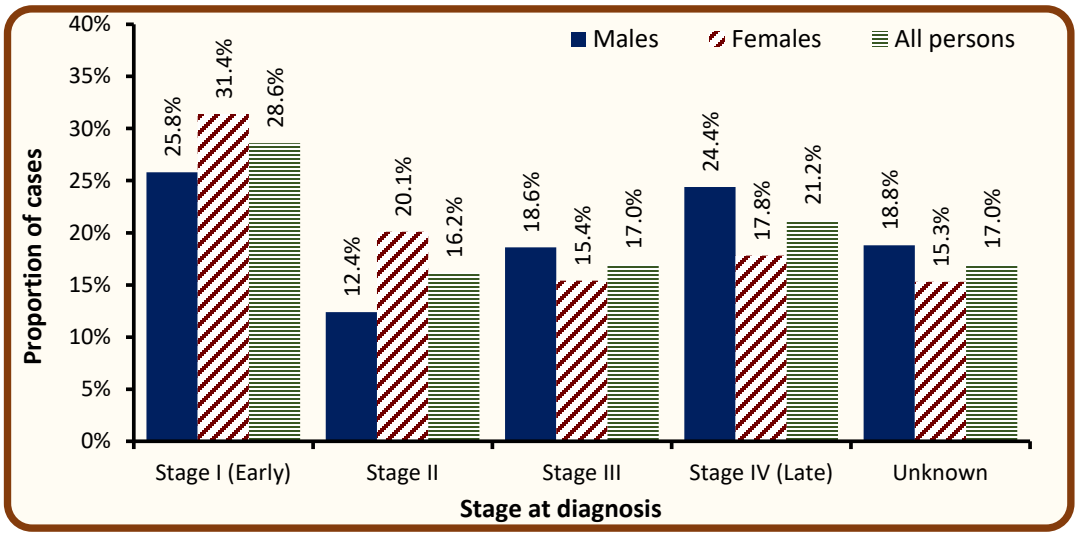
The majority of patients with no inpatient admission recorded prior to diagnosis are likely to have been diagnosed via an outpatient route.

Incidence by stage at diagnosis - *All cancers (ex NMSC), Cases in 2016-2020*

During 2016-2020:

- 83.0% of cases diagnosed had a stage assigned.
- 28.6% of cases were diagnosed at stage I. (34.4% of staged cases)
- 21.2% of cases were diagnosed at stage IV. (25.5% of staged cases)
- Among cases which were staged, 30.1% of male cases were diagnosed at stage IV, compared to 21.0% of female cases.

Stage at diagnosis	Average cases per year		
	Male	Female	Both sexes
Stage I (Early)	1,281	1,530	2,812
Stage II	618	979	1,596
Stage III	922	753	1,675
Stage IV (Late)	1,214	869	2,084
Unknown	933	744	1,677
All stages	4,968	4,874	9,843



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.

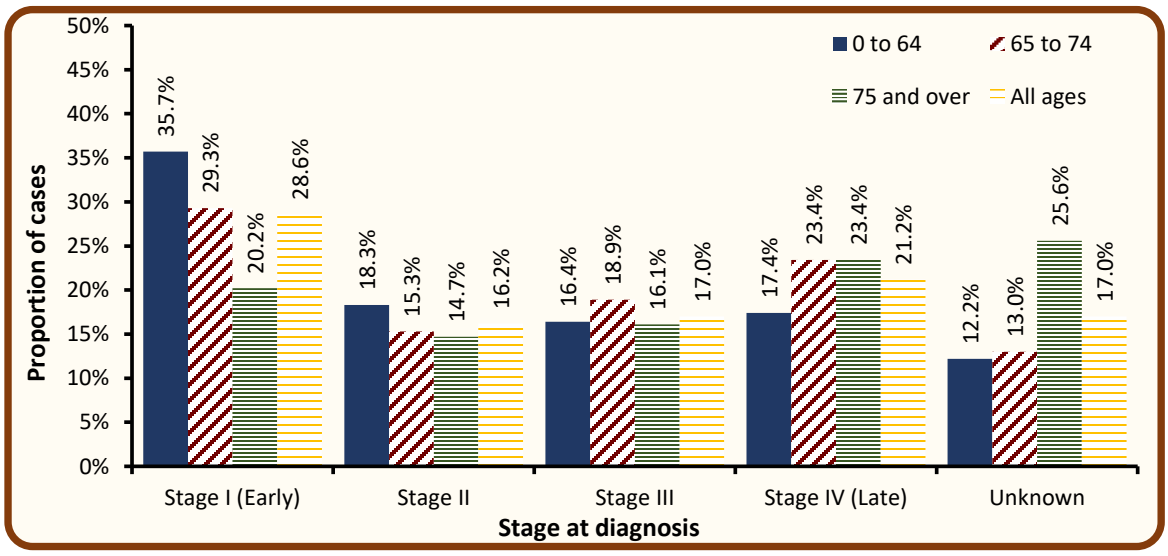
The classification used here to stage cancer is the TNM classification (Version 7 prior to 2018, Version 8 from 2018 onwards).

Incidence by age and stage at diagnosis - *All cancers (ex NMSC), Cases in 2016-2020*

During 2016-2020:

- 25.6% of cases among those aged 75 and over did not have a stage assigned at diagnosis, compared to 12.2% of cases among those aged 0 to 64.
- Among cases which were staged, 31.5% of cases among those aged 75 and over were diagnosed at stage IV, compared to 19.8% of cases among those aged 0 to 64.

Stage at diagnosis	Average cases per year			
	0 to 64	65 to 74	75 and over	All ages
Stage I (Early)	1,300	831	681	2,812
Stage II	665	434	496	1,596
Stage III	597	535	543	1,675
Stage IV (Late)	631	663	789	2,084
Unknown	445	368	863	1,677
All stages	3,639	2,832	3,372	9,843



Survival

▪ 70.9% of patients were alive one year and 49.9% were alive five years from a cancer (ex NMSC) diagnosis in 2011-2015. (observed survival)

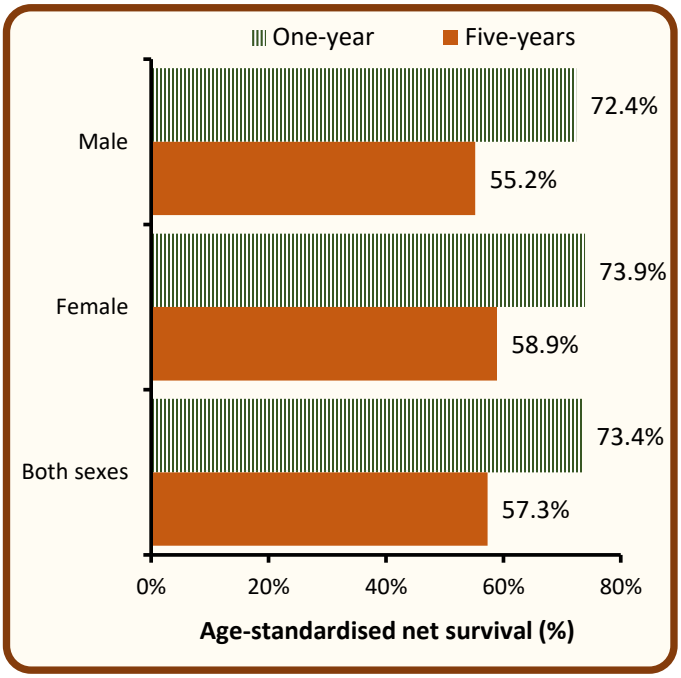
▪ Age-standardised net survival (ASNS), which removes the effect of deaths from causes unrelated to cancer, was 73.4% one year and 57.3% five years from a cancer (ex NMSC) diagnosis in 2011-2015.

▪ Five-year survival (ASNS) for patients diagnosed with cancer (ex NMSC) in 2011-2015 was 55.2% among men and 58.9% among women.

Gender	Observed survival		Age-standardised net survival	
	One-year	Five-years	One-year	Five-years
Male	69.2%	46.3%	72.4%	55.2%
Female	72.5%	53.6%	73.9%	58.9%
Both sexes	70.9%	49.9%	73.4%	57.3%

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.

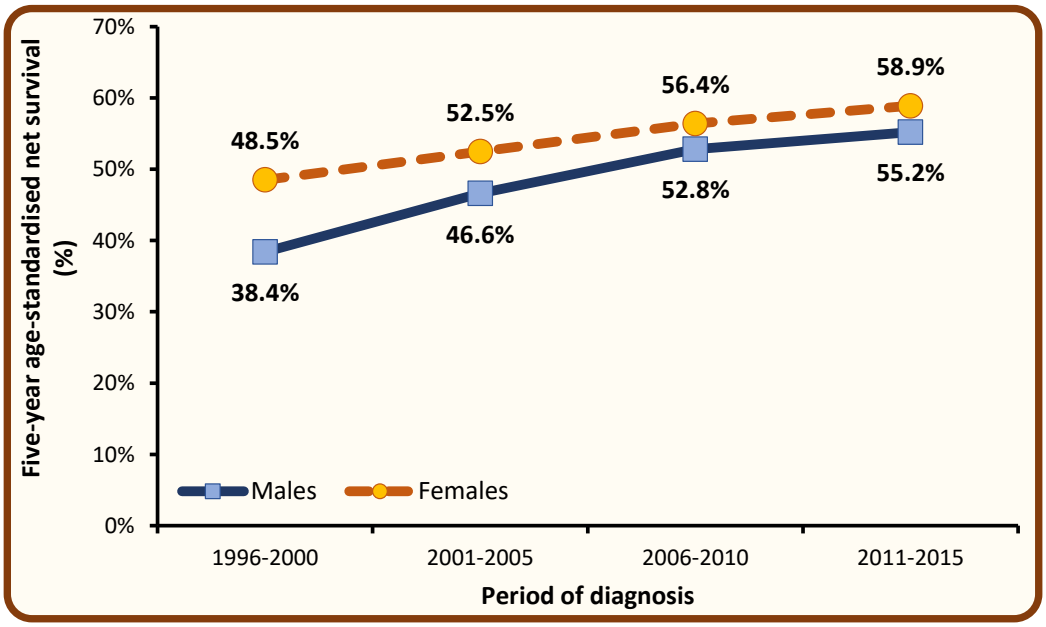
Age-standardised net survival is the proportion of patients who would survive if the patient could not die from causes unrelated to their cancer. This measure is more typically used in studies of cancer survival.



Trends in survival - *All cancers (ex NMSC), Patients diagnosed in 1996-2015*

▪ Among men five-year survival (ASNS) from cancer (ex NMSC) increased from 52.8% in 2006-2010 to 55.2% in 2011-2015. This difference was statistically significant.

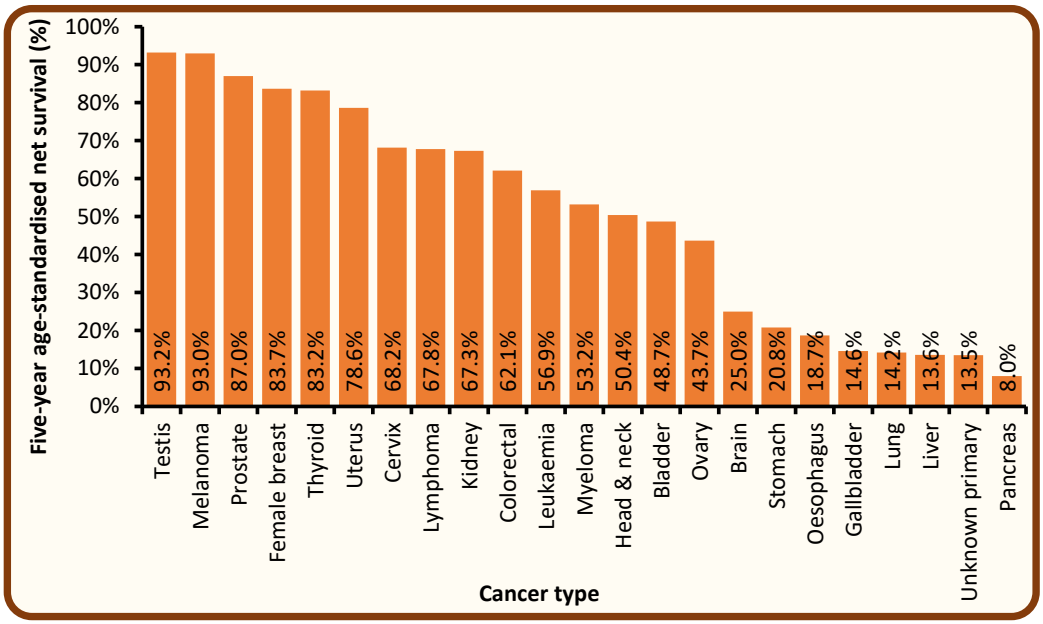
▪ Among women five-year survival (ASNS) from cancer (ex NMSC) increased from 56.4% in 2006-2010 to 58.9% in 2011-2015. This difference was statistically significant.



ASNS: Age-standardised net survival

Survival by cancer type - *All cancers (ex NMSC), Patients diagnosed in 2011-2015*

- Five-year survival (ASNS) for patients diagnosed in 2011-2015 ranged from 93.2% for testicular cancer to 8.0% for pancreatic cancer.
- In particular five-year survival (ASNS) for the most common cancer types was 83.7% for female breast cancer, 62.1% for colorectal cancer, 14.2% for lung cancer and 87.0% for prostate cancer.



Trends in survival by cancer type - *All cancers (ex NMSC), Patients diagnosed in 2006-2015*

- Five-year survival (ASNS) showed significant improvement between 2006-2010 and 2011-2015 for all cancers (ex NMSC), colorectal cancer and liver cancer among males and for all cancers (ex NMSC), lung cancer and kidney cancer among females.
- Five-year survival (ASNS) did not decrease significantly for any cancer site between 2006-2010 and 2011-2015.

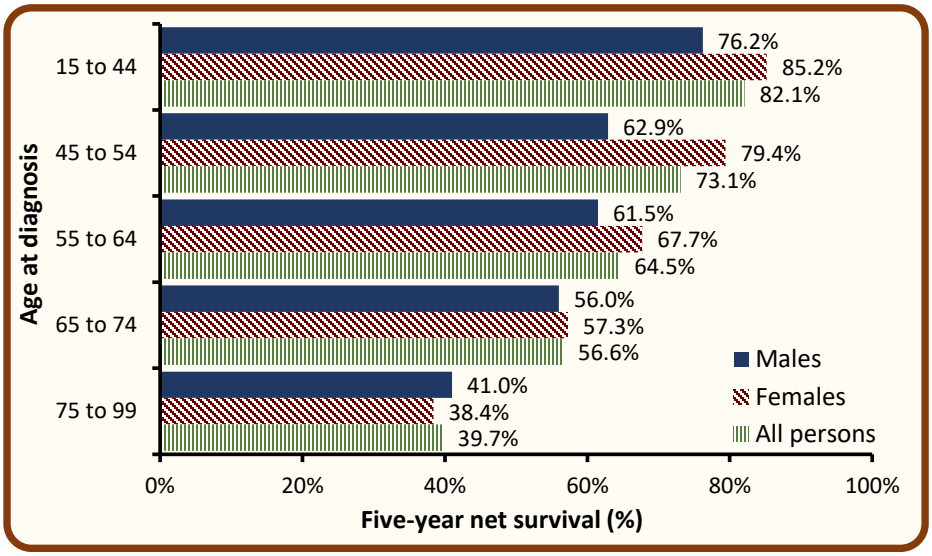
Cancer type	Five-year age-standardised net survival			
	Male		Female	
	2006-2010	2011-2015	2006-2010	2011-2015
All cancers (ex NMSC)	**52.8%**	**55.2%***	**56.4%**	**58.9%***
Head and neck cancer	53.8%	50.1%	55.5%	52.0%
Oesophageal cancer	19.0%	17.8%	20.3%	20.9%
Stomach cancer	18.4%	19.7%	21.1%	23.1%
Colorectal cancer	56.1%	62.4%*	58.3%	61.7%
Liver cancer	6.7%	14.9%*	13.2%	10.9%
Gallbladder cancer	9.3%	15.4%	13.0%	14.6%
Pancreatic cancer	4.5%	7.8%	5.2%	8.5%
Lung cancer	10.1%	12.2%	11.0%	16.7%*
Melanoma	88.7%	90.3%	92.3%	95.3%
Breast cancer			81.3%	83.7%
Cervical cancer			61.8%	68.2%
Uterine cancer			77.3%	78.6%
Ovarian cancer (inc. fallopian tube)			41.4%	43.7%
Prostate cancer	88.3%	87.0%		
Testicular cancer	97.9%	93.2%		
Kidney cancer	57.6%	64.2%	56.1%	72.1%*
Bladder cancer	57.3%	51.9%	43.7%	41.2%
Brain cancer (inc. CNS)	24.0%	20.7%	27.0%	31.5%
Thyroid cancer	77.6%	79.8%	81.5%	85.3%
Lymphoma	61.4%	66.7%	66.7%	69.3%
Myeloma (inc. plasma cell)	48.8%	51.5%	51.2%	56.1%
Leukaemia	54.9%	57.2%	55.6%	56.6%
Unknown primary cancer	11.1%	13.4%	8.7%	13.5%

** Represents a statistically significant change over time.*

CNS: Central Nervous System

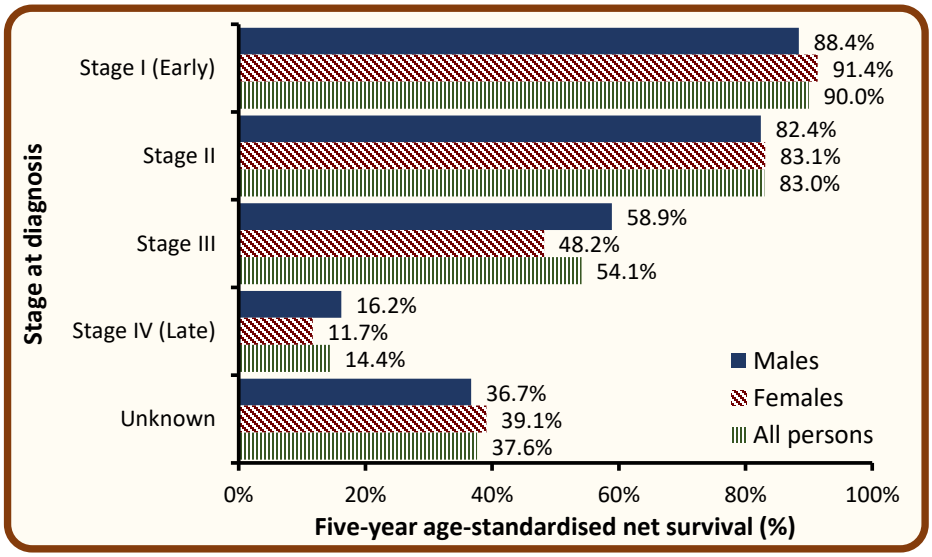
Survival by age at diagnosis - *All cancers (ex NMSC), Patients diagnosed in 2011-2015*

- Survival from cancer (ex NMSC) among patients diagnosed in 2011-2015 was strongly related to patient age with five-year survival decreasing as age increases.
- Five-year net survival ranged from 82.1% among patients aged 15-44 at diagnosis to 39.7% among those aged 75 and over.
- Five-year net survival among patients aged 75 and over was 41.0% for men and 38.4% for women.



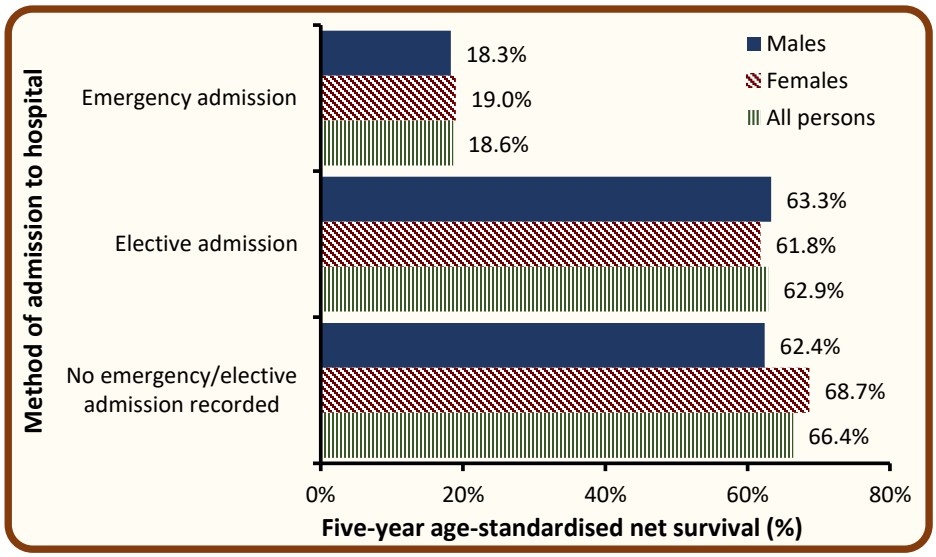
Survival by stage at diagnosis - *All cancers (ex NMSC), Patients diagnosed in 2011-2015*

- Stage at diagnosis is one of the most important factors in cancer (ex NMSC) survival with five-year survival decreasing as stage increases.
- Five-year survival (ASNS) ranged from 90.0% for early stage (stage I) disease to 14.4% for late stage (stage IV) disease.
- Five-year survival (ASNS) for unstaged cancer was 37.6%.
- Five-year survival (ASNS) for stage IV cancer was 16.2% for men, compared to 11.7% for women.



Survival by method of most recent admission to hospital - *All cancers (ex NMSC), Patients diagnosed in 2011-2015*

- Five-year survival (ASNS) among patients who had an emergency admission to hospital within 30 days prior to their cancer diagnosis was 18.6% compared to 62.9% among those with elective admissions and 66.4% among those who had neither type of hospital admission recorded within 30 days prior to diagnosis.
- Five-year survival (ASNS) among patients who had an emergency admission to hospital within 30 days prior to their cancer diagnosis was 18.3% for men, compared to 19.0% for women.



Prevalence

▪ At the end of 2020, there were 69,168 people (Males: 30,851; Females: 38,317) living with cancer (ex NMSC) who had been diagnosed with the disease during 1996-2020.

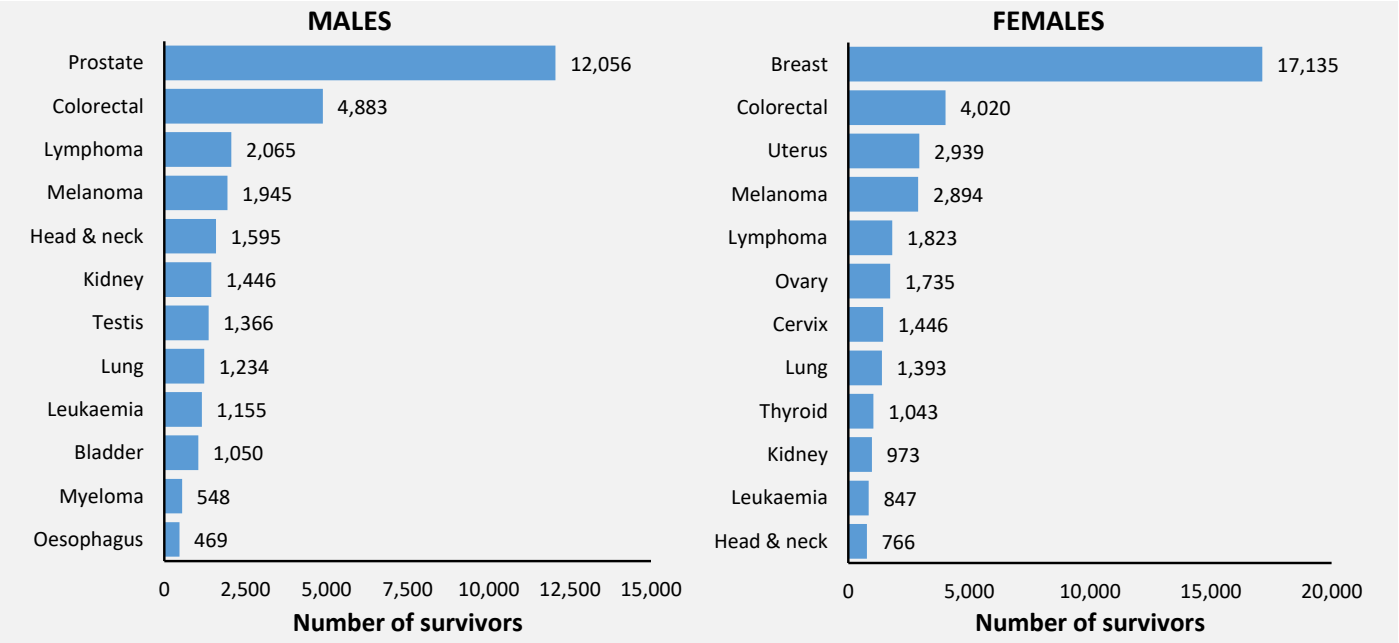
▪ Of these, 44.6% were male, 34.0% were aged 75 and over, and 10.2% had been diagnosed in the previous year.

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 to 74			Aged 75 and over			All ages		
	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes
0-1 year	2,437	2,503	4,940	1,162	968	2,130	3,599	3,471	7,070
1-5 years	7,073	8,548	15,621	3,602	3,010	6,612	10,675	11,558	22,233
5-10 years	4,919	6,867	11,786	3,161	2,936	6,097	8,080	9,803	17,883
10-25 years	4,632	8,672	13,304	3,865	4,813	8,678	8,497	13,485	21,982
0-25 years	19,061	26,590	45,651	11,790	11,727	23,517	30,851	38,317	69,168

25-year prevalence by cancer type - *All cancers (ex NMSC), Patients alive at end of 2020*

The most prevalent cancer types among male survivors at the end of 2020 (ex NMSC), were prostate cancer (12,056 survivors) and colorectal cancer (4,883 survivors), while the most prevalent cancer types among female survivors were breast cancer (17,135 survivors) and colorectal cancer (4,020 survivors).



Trends in 10-year prevalence - *All cancers (ex NMSC), Patients alive at end of each year from 2011-2020*

▪ Among males the number of survivors from cancer (ex NMSC) who had been diagnosed within the previous five years increased by 13.4% from 19,709 survivors in 2015 to 22,354 survivors in 2020.

▪ Among females the number of survivors from cancer (ex NMSC) who had been diagnosed within the previous five years increased by 11.0% from 22,367 survivors in 2015 to 24,832 survivors in 2020.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	16,940	17,795	18,463	19,113	19,709	20,293	20,790	21,448	22,169	22,354
Female	19,505	20,291	21,035	21,566	22,367	23,085	23,655	24,321	24,847	24,832
Both sexes	36,445	38,086	39,498	40,679	42,076	43,378	44,445	45,769	47,016	47,186

Mortality

During 2016-2020 there were 2,337 male and 2,128 female deaths from cancer (ex NMSC) each year.

Deaths by age at death *- All cancers (ex NMSC), Deaths in 2016-2020*

- The median age at death during 2016-2020 was 75 for men and 75 for women.
- Risk of death from cancer (ex NMSC) was strongly related to age, with 50.9% of men and 52.5% of women aged 75 years or more at time of death.
- 7.6% of cancer deaths (ex NMSC) occurred among those aged under 55.

Age at death	Average deaths per year		
	Male	Female	Both sexes
0 - 54	159	179	340
55 - 64	321	303	624
65 - 74	666	528	1,195
75 +	1,190	1,118	2,308
All ages	2,337	2,128	4,465

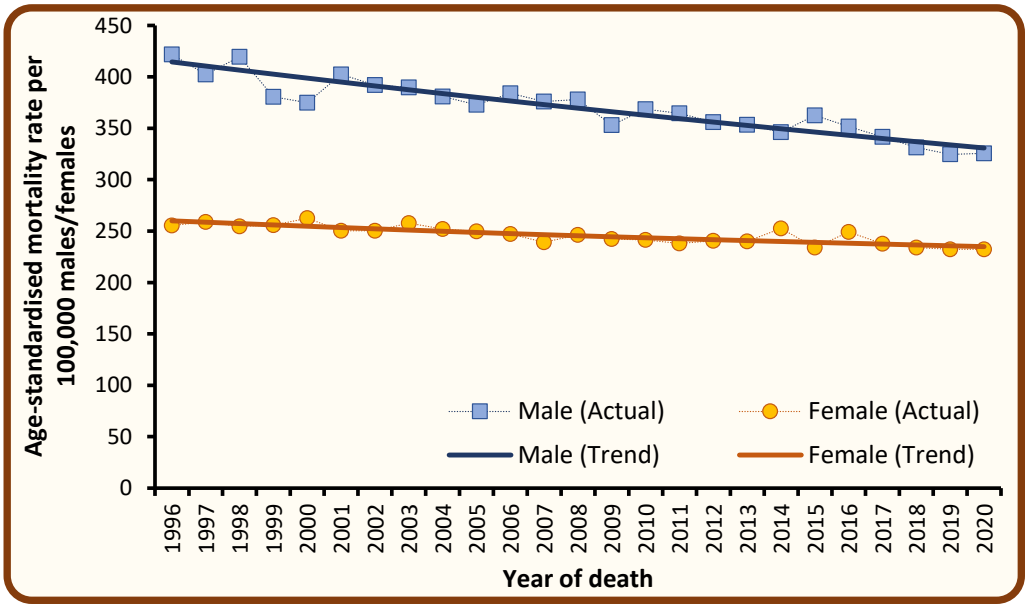
Deaths by year of death *- All cancers (ex NMSC), Deaths in 2011-2020*

- Among males the number of deaths from cancer (ex NMSC) increased by 5.9% from an annual average of 2,206 deaths in 2011-2015 to 2,337 deaths in 2016-2020.
- Among females the number of deaths from cancer (ex NMSC) increased by 6.8% from an annual average of 1,992 deaths in 2011-2015 to 2,128 deaths in 2016-2020.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	2,136	2,146	2,203	2,203	2,343	2,340	2,338	2,305	2,318	2,385
Female	1,903	1,959	1,978	2,121	2,000	2,162	2,103	2,097	2,123	2,155
Both sexes	4,039	4,105	4,181	4,324	4,343	4,502	4,441	4,402	4,441	4,540

Trends in age-standardised mortality rates *- All cancers (ex NMSC), Deaths in 1996-2020*

- Among males age-standardised mortality rates from cancer (ex NMSC) decreased by 6.1% between 2011-2015 and 2016-2020 from 356.6 to 334.7 deaths per 100,000 persons years. This difference was statistically significant.
- Among females age-standardised mortality rates from cancer (ex NMSC) decreased by 1.7% between 2011-2015 and 2016-2020 from 241.1 to 237.0 deaths per 100,000 persons years. This difference was not statistically significant.



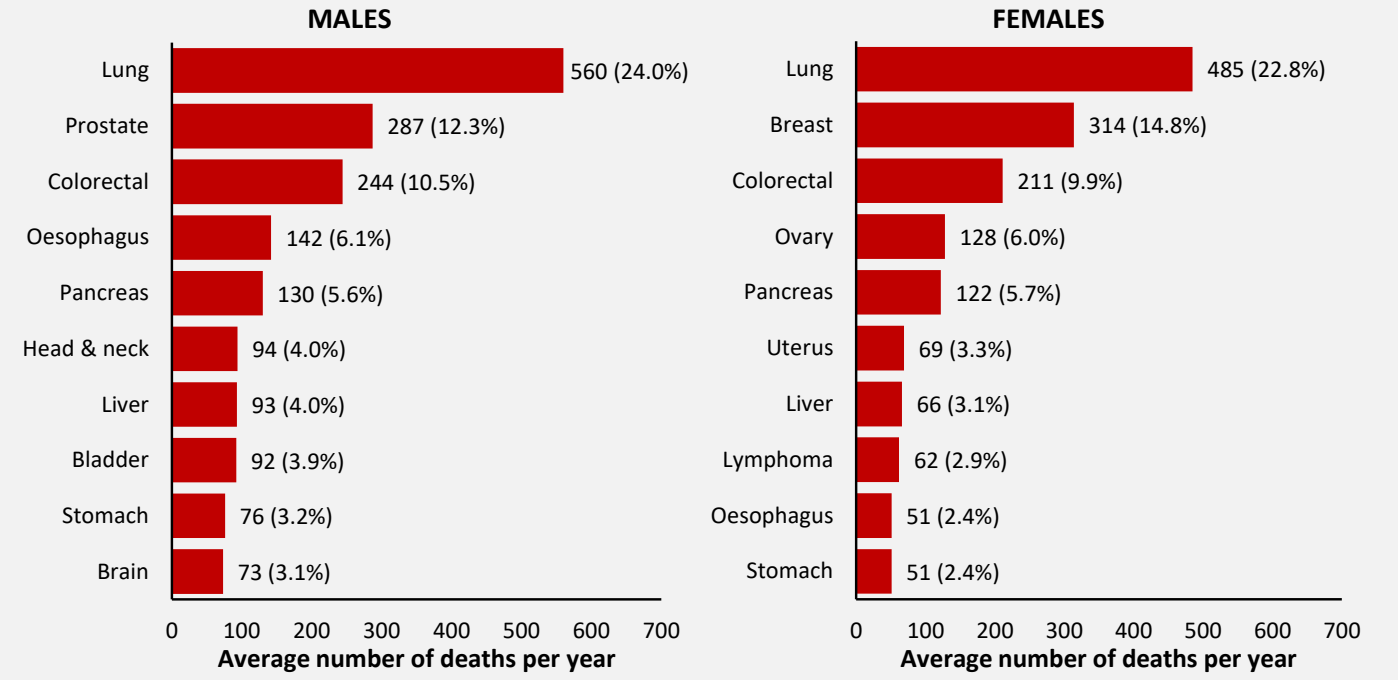
Mortality data are provided by the Northern Ireland General Registrar Office via the Department of Health.

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 (ex NMSC), Deaths in 2016-2020*

The most common causes of cancer death (ex NMSC) among men were lung cancer (24.0%), prostate cancer (12.3%) and colorectal cancer (10.5%), while the most common causes of cancer death (ex NMSC) among women were lung cancer (22.8%), breast cancer (14.8%) and colorectal cancer (9.9%).



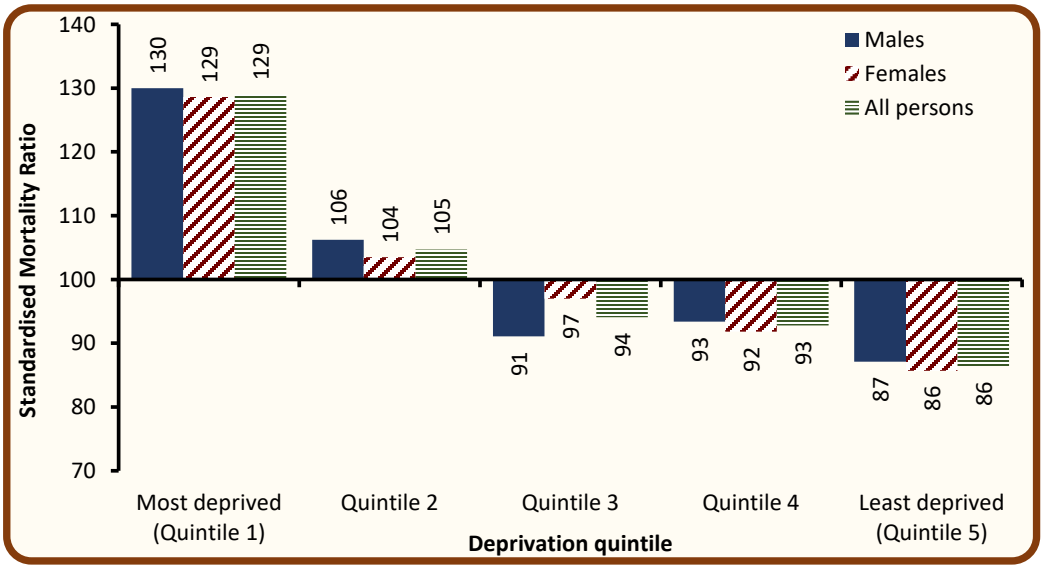
Deaths by deprivation quintile - *All cancers (ex NMSC), Deaths in 2016-2020*

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 13.6% lower than the NI average.
- in the most socio-economically deprived areas were 29.0% higher than the NI average.

Deprivation quintile	Average deaths per year		
	Male	Female	Both sexes
Most deprived (Quintile 1)	482	448	930
Quintile 2	492	443	935
Quintile 3	456	429	885
Quintile 4	466	409	875
Least deprived (Quintile 5)	438	398	836
Northern Ireland	2,337	2,128	4,465



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).

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).

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).

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 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.