All cancers (ex NMSC)

1993-2021

(NMSC: Non-melanoma skin cancer)

(ICD10 codes: C00-C43, C45-C97)

Northern Ireland Cancer Registry, 2024

An official statistics publication

ABOUT THIS REPORT

Contents

This report includes information on incidence of all cancers (excluding non-melanoma skin cancer) as recorded by the Northern Ireland Cancer Registry (NICR). Incidence data is available annually from 1993 to 2021, however in order to provide stable and robust figures the majority of information presented in this report is based upon the average number of cases diagnosed in the last five years.

Methodology

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

Official statistics

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

Cancer mortality data

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

Reuse of information

The information in this report (and any supplementary material) is available for reuse free of charge and without the need to contact NICR. However, we request that NICR is acknowledged as the source of any reused information. The following reference is recommended:
Northern Ireland Cancer Registry 2024. All cancers (ex NMSC): 1993-2021. Available at: www.qub.ac.uk/research-centres/nicr

Further information

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

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Acknowledgements

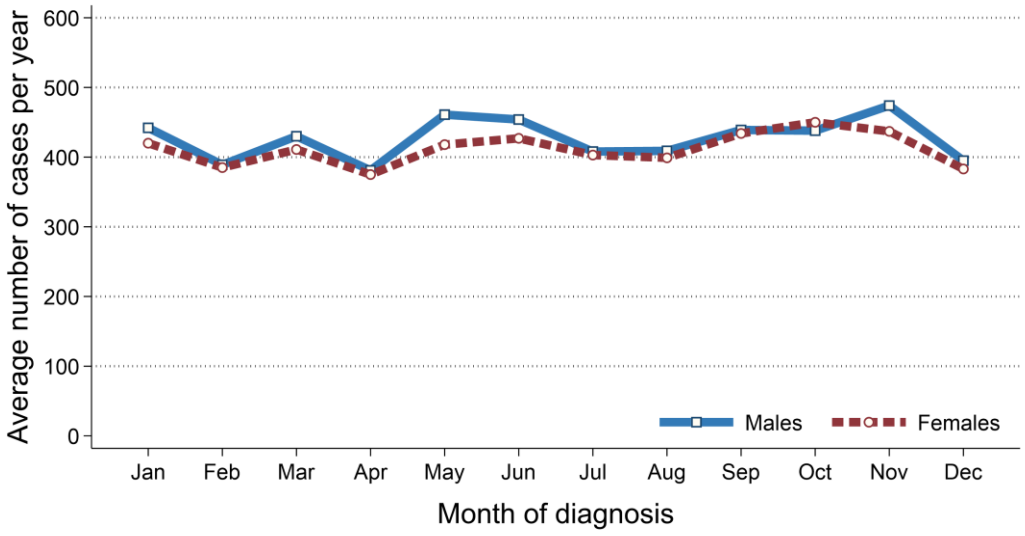
The Northern Ireland Cancer Registry (NICR) uses data provided by patients and collected by the health service as part of their care and support.

NICR is funded by the Public Health Agency and is based in Queen's University, Belfast.

INCIDENCE

- There were 50,307 cases of cancer (excluding non-melanoma skin cancer) diagnosed during 2017-2021 in Northern Ireland. On average this was 10,061 cases per year.
- During this period 49.1% of cancer (ex NMSC) cases were among women (Male cases: 25,601, Female cases: 24,706). On average there were 5,120 male and 4,941 female cases of cancer (ex NMSC) per year.
- The most common diagnosis month during 2017-2021 was November among males with 474 cases per year and October among females with 450 cases per year.

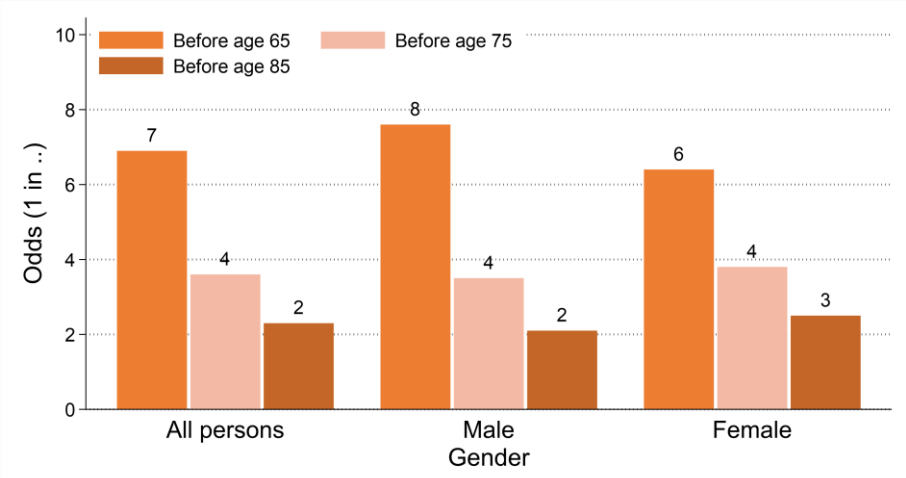
Figure 1: Average number of cases of cancer (ex NMSC) per year in 2017-2021 by month of diagnosis



Month of diagnosis	Average number of cases per year	
	Males	Females
January	442	420
February	389	385
March	430	411
April	381	375
May	461	418
June	454	427
July	408	403
August	409	399
September	439	434
October	438	450
November	474	437
December	395	383

- The cancer (ex NMSC) incidence rates for each gender were 550.5 cases per 100,000 males and 515.1 cases per 100,000 females.
- The odds of developing cancer (ex NMSC) before age 85 was 1 in 2.1 for men and 1 in 2.5 for women.

Figure 2: Odds of developing cancer (ex NMSC) in 2017-2021



INCIDENCE BY AGE

- The median age of patients diagnosed with cancer (ex NMSC) during 2017-2021 was 69 years (Males: 70, Females: 68).
- The risk of developing cancer (ex NMSC) varied by age, with 35.7% of men and 33.3% of women diagnosed with cancer (ex NMSC) aged 75 and over at diagnosis.
- In contrast, 17.2% of patients diagnosed with cancer (ex NMSC) were aged 0 to 54 at diagnosis.

Figure 3: Average number of cases of cancer (ex NMSC) diagnosed per year in 2017-2021 by age at diagnosis

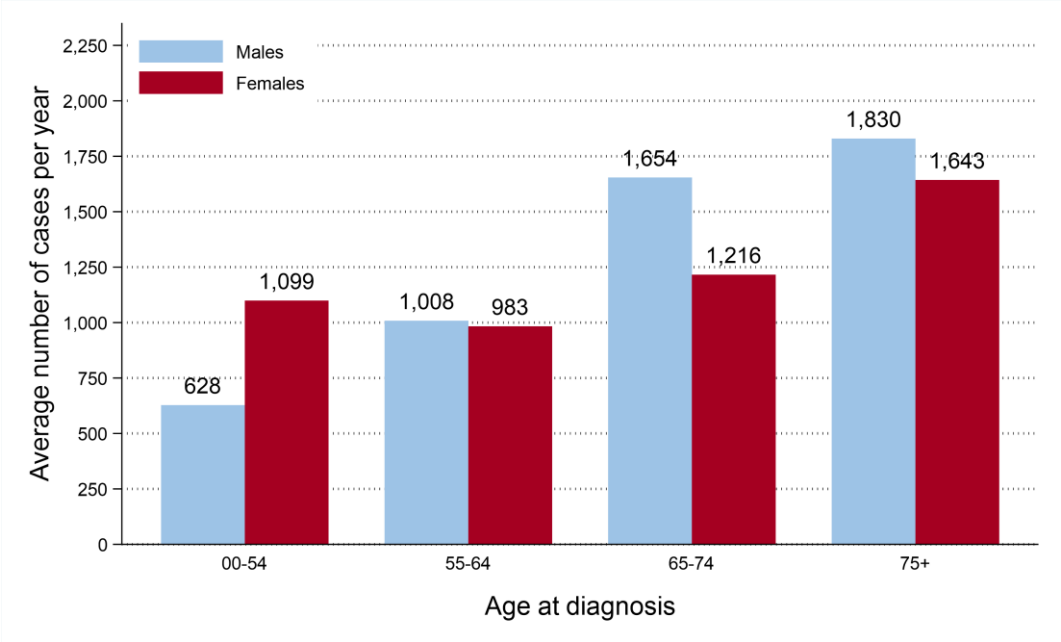
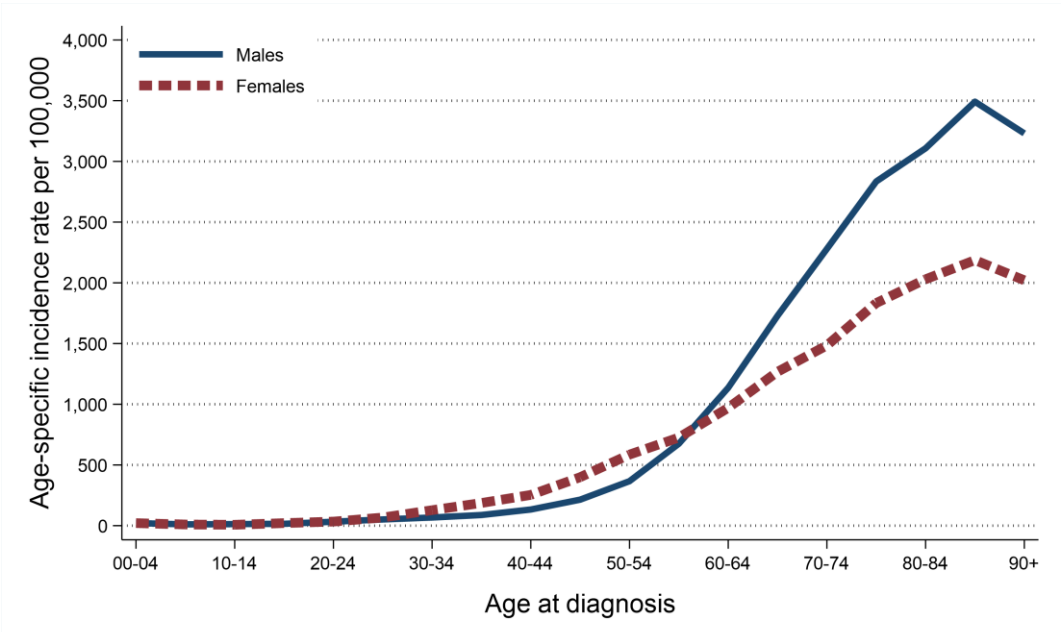


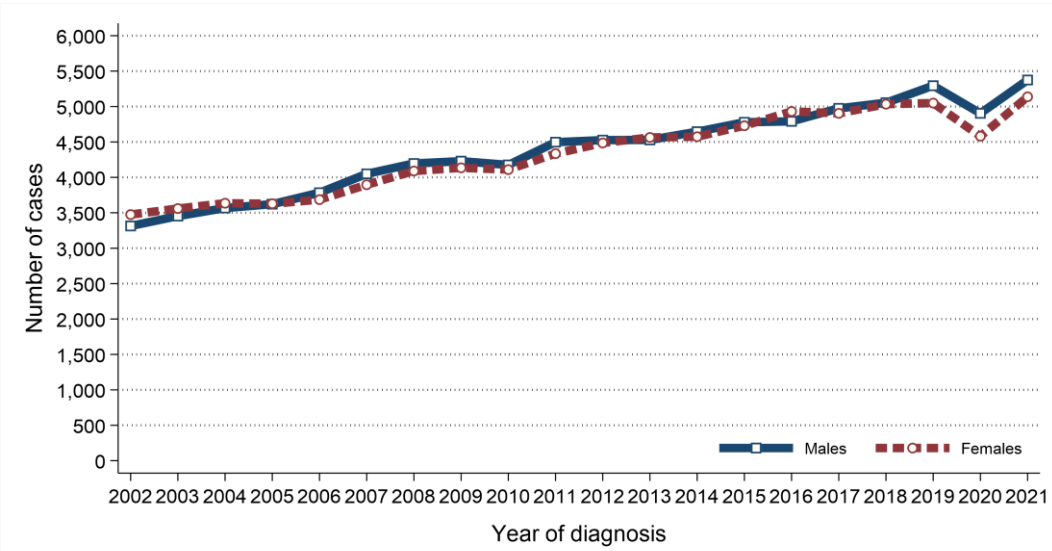
Figure 4: Age-specific incidence rates of cancer (ex NMSC) in 2017-2021



INCIDENCE TRENDS

- The number of cases of cancer (ex NMSC) among males increased between 2012-2016 and 2017-2021 by 10.0% from 23,269 cases (4,654 cases per year) to 25,601 cases (5,120 cases per year).
- The number of cases of cancer (ex NMSC) among females increased between 2012-2016 and 2017-2021 by 6.1% from 23,284 cases (4,657 cases per year) to 24,706 cases (4,941 cases per year).

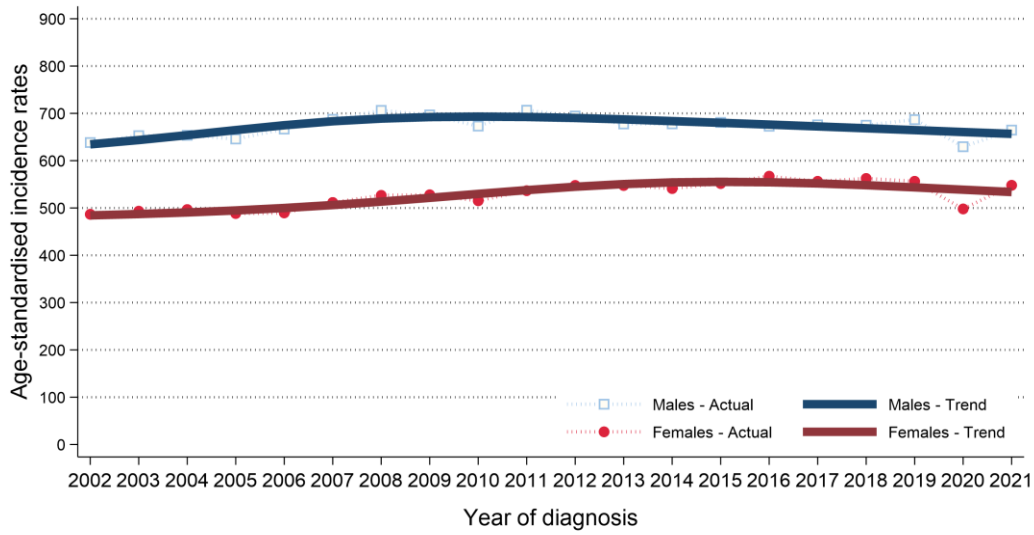
Figure 5: Trends in number of cases of cancer (ex NMSC) diagnosed from 2002 to 2021



Year of diagnosis	Number of cases	
	Males	Females
2012	4,526	4,486
2013	4,529	4,564
2014	4,645	4,574
2015	4,778	4,729
2016	4,791	4,931
2017	4,974	4,904
2018	5,054	5,034
2019	5,294	5,049
2020	4,904	4,581
2021	5,375	5,138

- Male age-standardised cancer (ex NMSC) incidence rates decreased between 2012-2016 and 2017-2021 by 2.1% from 680.4 to 665.9 cases per 100,000 males. This change was not statistically significant.
- Female age-standardised cancer (ex NMSC) incidence rates decreased between 2012-2016 and 2017-2021 by 1.3% from 551.3 to 544.0 cases per 100,000 females. This change was not statistically significant.

Figure 6: Trends in incidence rates of cancer (ex NMSC) from 2002 to 2021



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 TRENDS BY AGE

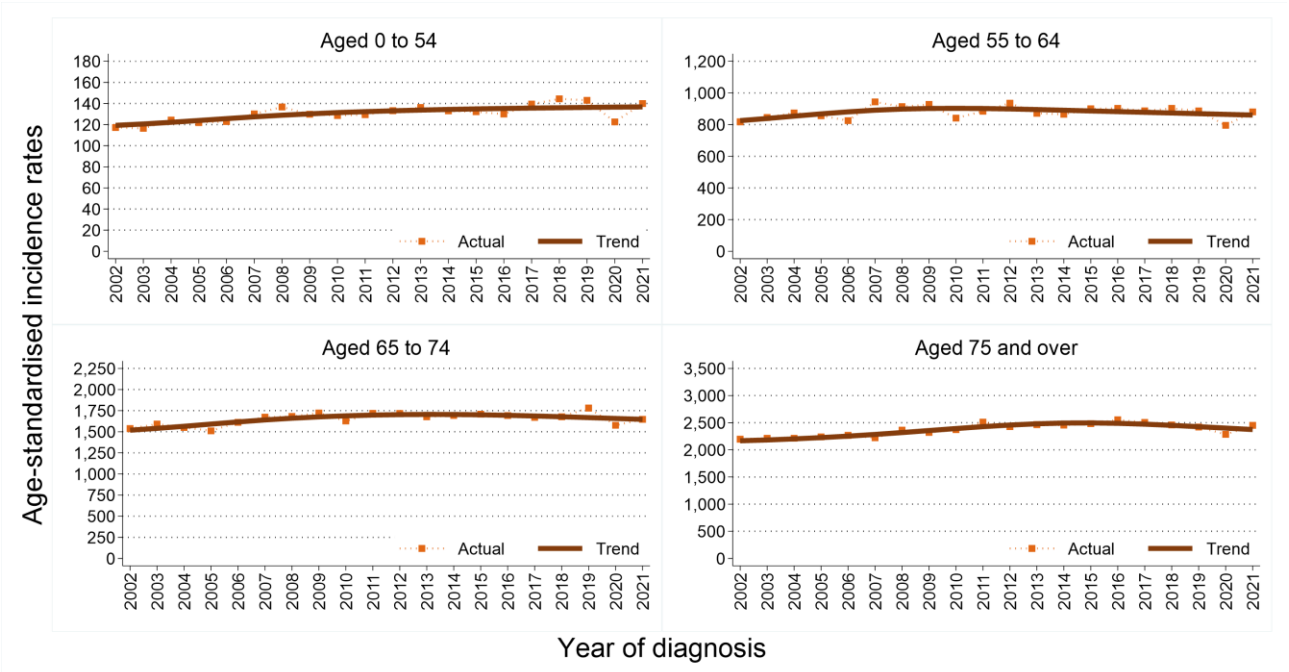
- Between 2012-2016 and 2017-2021 the number of cases of cancer (ex NMSC) among
  - Persons aged 0 to 54 increased by 1.7% among males and increased by 4.6% among females.
  - Persons aged 55 to 64 increased by 9.9% among males and increased by 9.7% among females.
  - Persons aged 65 to 74 increased by 10.1% among males and increased by 3.3% among females.
  - Persons aged 75 and over increased by 13.2% among males and increased by 7.2% among females.

Table 1: Average number of cases per year of cancer (ex NMSC) by period of diagnosis in 2012-2021

Age at diagnosis	All persons		Male		Female	
	2012-2016	2017-2021	2012-2016	2017-2021	2012-2016	2017-2021
All ages	**9,311**	**10,061**	**4,654**	**5,120**	**4,657**	**4,941**
	.	.	.	.	.	.
0 to 54	1,668	1,727	618	628	1,051	1,099
55 to 64	1,813	1,991	917	1,008	896	983
65 to 74	2,679	2,870	1,502	1,654	1,177	1,216
75 and over	3,150	3,473	1,617	1,830	1,533	1,643

- Between 2012-2016 and 2017-2021 age-standardised incidence rates of cancer (ex NMSC) among
  - Persons aged 0 to 54 did not change significantly among males or females.
  - Persons aged 55 to 64 did not change significantly among males or females.
  - Persons aged 65 to 74 did not change significantly among males or females.
  - Persons aged 75 and over decreased by 4.4% among males and did not change significantly among females.

Figure 7: Trends in incidence rates of cancer (ex NMSC) from 2002 to 2021 by age group



INCIDENCE BY CANCER TYPE

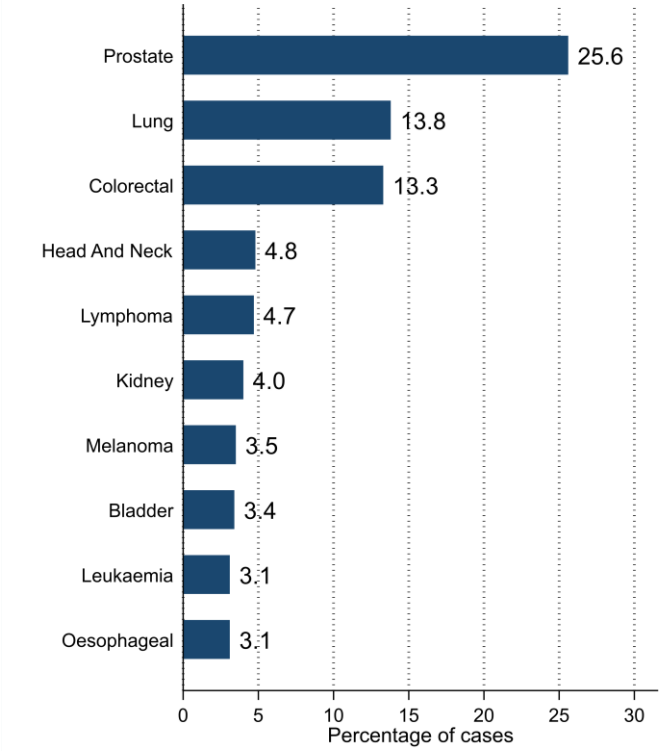
- During 2017-2021 the most common cancer (ex NMSC) types among males were prostate cancer (25.6%), lung cancer (including trachea) (13.8%) and colorectal cancer (13.3%). Among females they were breast cancer (30.2%), lung cancer (including trachea) (13.1%) and colorectal cancer (10.8%).

Table 2: Number of cases of cancer (ex NMSC) diagnosed in 2017-2021 by cancer type

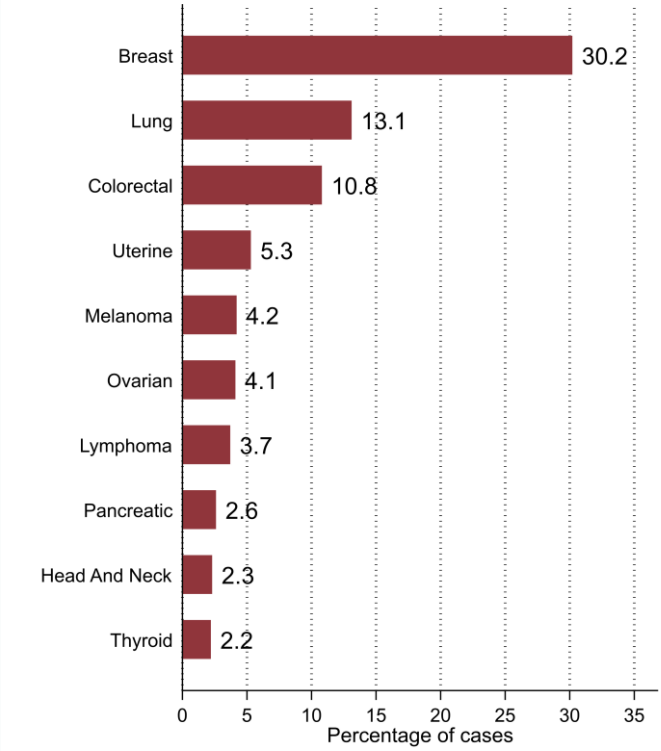
Cancer type	All persons		Male		Female	
	Total cases in period	Average cases per year	Total cases in period	Average cases per year	Total cases in period	Average cases per year
All cancers (ex NMSC)	**50,307**	**10,061**	**25,601**	**5,120**	**24,706**	**4,941**
	.	.	.	.	.	.
Bladder cancer	1,216	243	871	174	345	69
Bone cancer	75	15	40	8	35	7
Brain cancer (including central nervous system)	809	162	479	96	330	66
Breast cancer	7,504	1,501	53	11	7,451	1,490
Cervical cancer	407	81	.	.	407	81
Colorectal cancer	6,081	1,216	3,409	682	2,672	534
Gallbladder cancer (including other biliary)	515	103	204	41	311	62
Head and neck cancer	1,788	358	1,222	244	566	113
Kidney cancer	1,561	312	1,024	205	537	107
Leukaemia	1,323	265	795	159	528	106
Liver cancer	755	151	516	103	239	48
Lung cancer (including trachea)	6,768	1,354	3,524	705	3,244	649
Lymphoma	2,123	425	1,215	243	908	182
Malignant melanoma	1,954	391	908	182	1,046	209
Mesothelioma	253	51	210	42	43	9
Multiple myeloma (including plasma cell neoplasms)	886	177	533	107	353	71
Oesophageal cancer	1,094	219	799	160	295	59
Ovarian cancer (including fallopian tube)	1,002	200	.	.	1,002	200
Pancreatic cancer	1,397	279	754	151	643	129
Prostate cancer	6,552	1,310	6,552	1,310	.	.
Stomach cancer	965	193	597	119	368	74
Testicular cancer	326	65	326	65	.	.
Thyroid cancer	743	149	207	41	536	107
Unknown primary cancer	899	180	416	83	483	97
Uterine cancer	1,317	263	.	.	1,317	263
Other cancer (ex NMSC)	1,994	399	947	189	1,047	209

Figure 8: Proportion of cases of cancer (ex NMSC) in 2017-2021 by cancer type

MALE



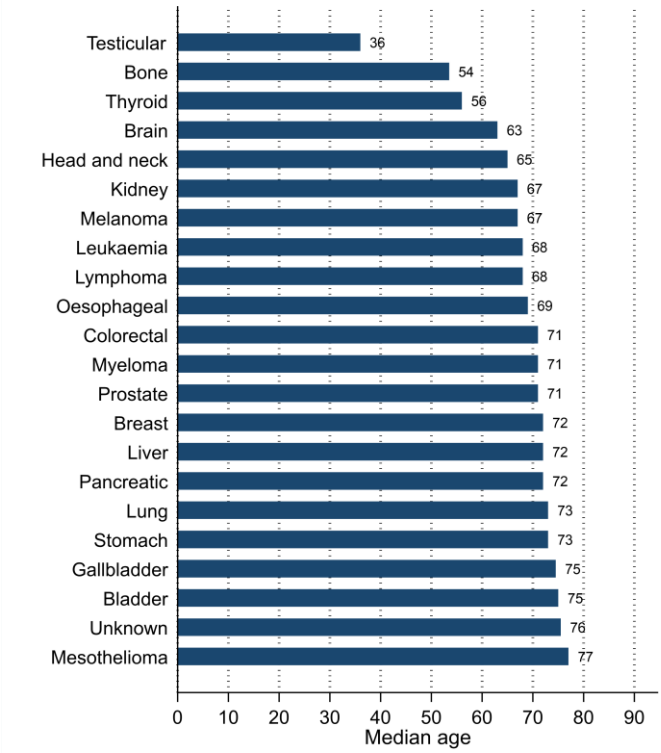
FEMALE



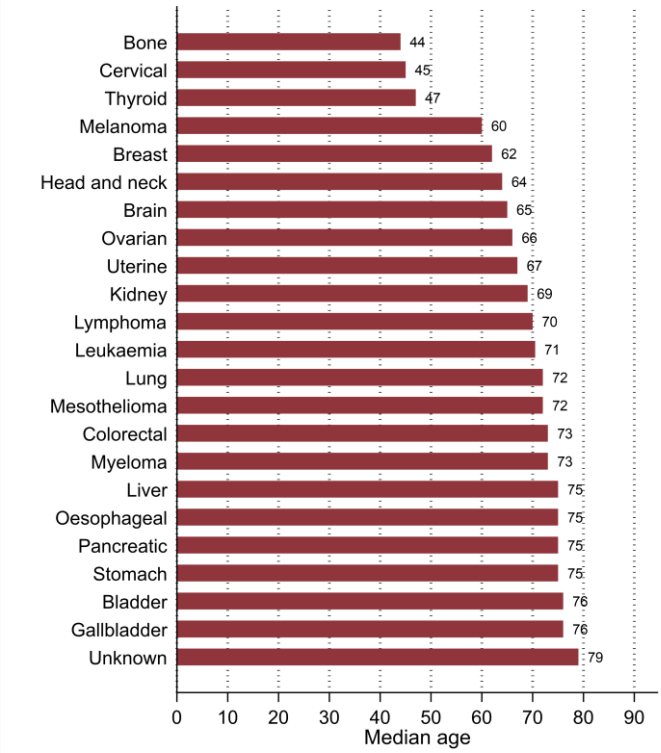
- The median age at diagnosis for most types of cancer (ex NMSC) during 2017-2021 was 60 years or more.
- Exceptions include testicular cancer (36), bone cancer (54) and thyroid cancer (56) among males and bone cancer (44), cervical cancer (45) and thyroid cancer (47) among females.

Figure 9: Median age of cancer (ex NMSC) patients at diagnosis in 2017-2021 by cancer type

MALE



FEMALE



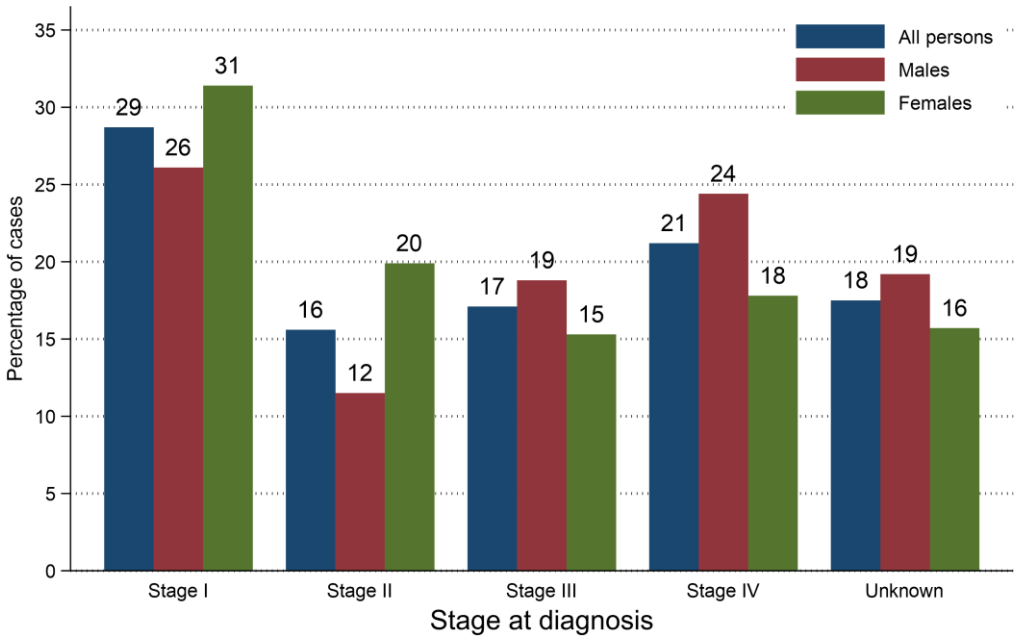
INCIDENCE BY STAGE AT DIAGNOSIS

- During 2017-2021 82.5% of cancer (ex NMSC) cases had a stage assigned.
- 28.7% of cancer (ex NMSC) cases were diagnosed at Stage I. (34.8% of staged cases)
- 21.2% of cancer (ex NMSC) cases were diagnosed at Stage IV. (25.6% of staged cases)

Table 3: Number of cases of cancer (ex NMSC) diagnosed in 2017-2021 by stage at diagnosis

Stage at diagnosis	All persons		Male		Female	
	Total cases in period	Average cases per year	Total cases in period	Average cases per year	Total cases in period	Average cases per year
All stages	**50,307**	**10,061**	**25,601**	**5,120**	**24,706**	**4,941**
	.	.	.	.	.	.
Stage I	14,454	2,891	6,693	1,339	7,761	1,552
Stage II	7,842	1,568	2,935	587	4,907	981
Stage III	8,582	1,716	4,809	962	3,773	755
Stage IV	10,646	2,129	6,255	1,251	4,391	878
Unknown	8,783	1,757	4,909	982	3,874	775

Figure 10: Proportion of cases of cancer (ex NMSC) diagnosed in 2017-2021 by stage at diagnosis



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

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

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

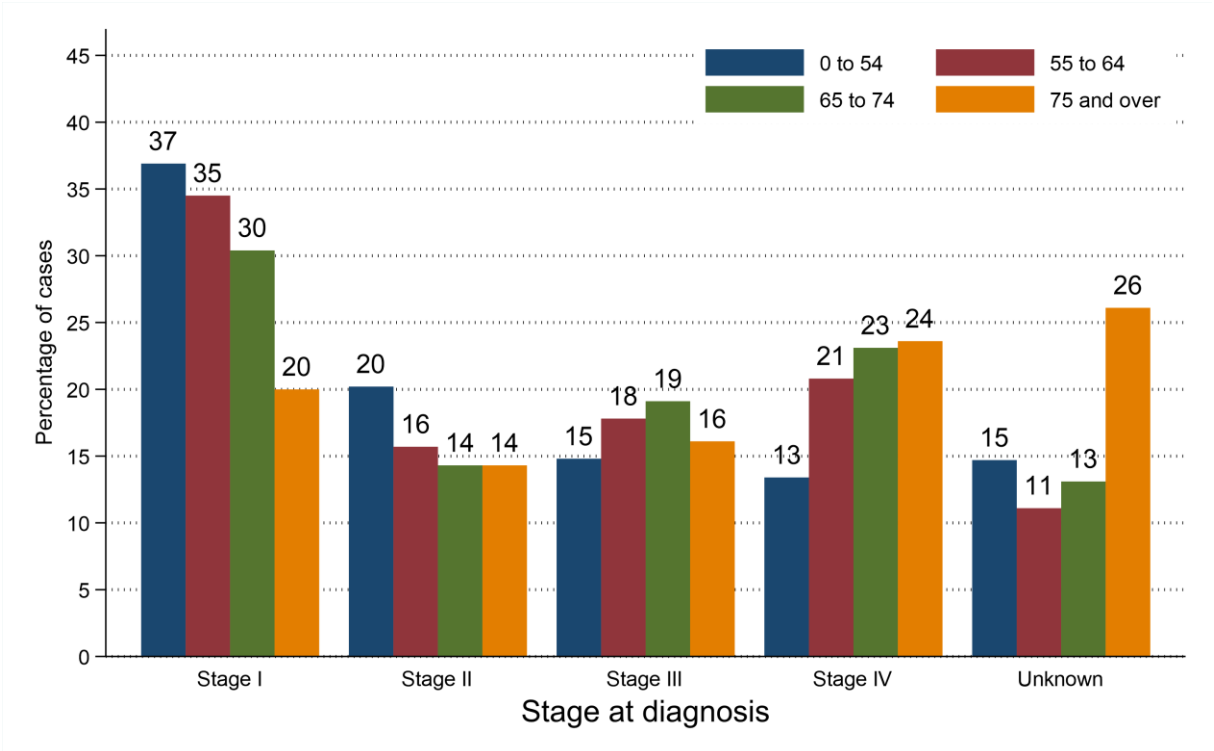
INCIDENCE BY STAGE AND AGE AT DIAGNOSIS

- During 2017-2021 73.9% of cancer (ex NMSC) cases among those aged 75 and over had a stage assigned compared to 85.3% of those aged 0 to 54.
- 20.0% of cancer (ex NMSC) cases among those aged 75 and over were diagnosed at Stage I (27.0% of staged cases) compared to 36.9% of those aged 0 to 54 (43.2% of staged cases).
- 23.6% of cancer (ex NMSC) cases among those aged 75 and over were diagnosed at Stage IV (31.9% of staged cases) compared to 13.4% of those aged 0 to 54 (15.7% of staged cases).

Table 4: Average number of cases of cancer (ex NMSC) diagnosed per year in 2017-2021 by stage and age at diagnosis

Stage at diagnosis	Age at diagnosis				
	All ages	0 to 54	55 to 64	65 to 74	75 and over
All stages	**10,061**	**1,727**	**1,991**	**2,870**	**3,473**
	.	.	.	.	.
Stage I	2,891	637	688	872	694
Stage II	1,568	349	312	412	495
Stage III	1,716	256	354	547	559
Stage IV	2,129	231	415	664	819
Unknown	1,757	253	222	376	906

Figure 11: Proportion of cases of cancer (ex NMSC) diagnosed in 2017-2021 by stage and age at diagnosis



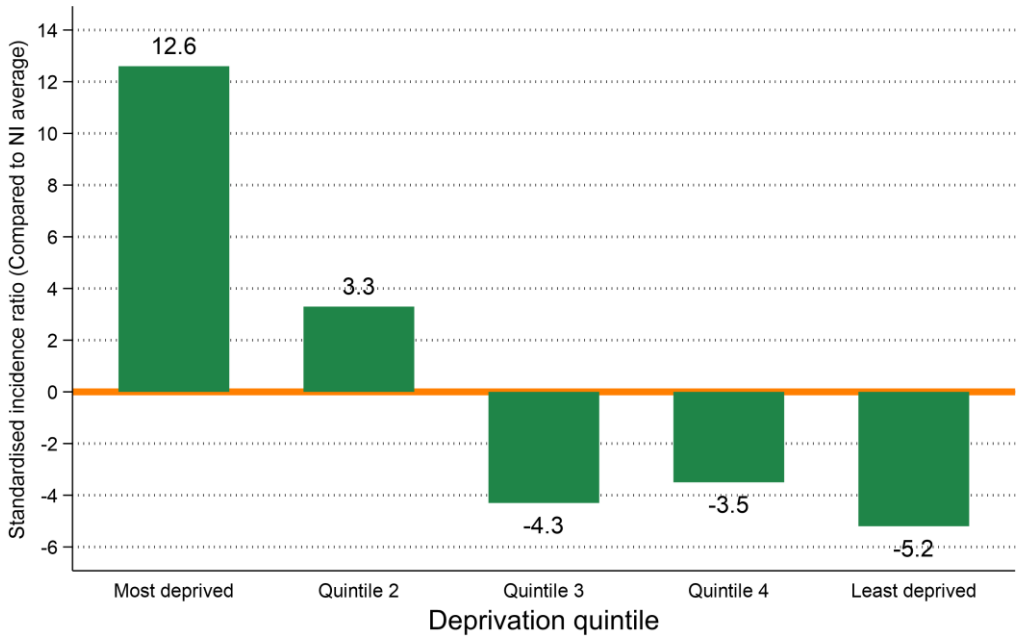
INCIDENCE BY DEPRIVATION

- The number of cases of cancer (ex NMSC) diagnosed during 2017-2021 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 12.6% higher than the NI average.
  - in the least socio-economically deprived areas were 5.2% lower than the NI average.

Table 5: Number of cases of cancer (ex NMSC) diagnosed in 2017-2021 by deprivation quintile

Deprivation quintile	All persons		Male		Female	
	Total cases in period	Average cases per year	Total cases in period	Average cases per year	Total cases in period	Average cases per year
Northern Ireland	**50,307**	**10,061**	**25,601**	**5,120**	**24,706**	**4,941**
	.	.	.	.	.	.
Most deprived	9,354	1,871	4,692	938	4,662	932
Quintile 2	10,408	2,082	5,311	1,062	5,097	1,019
Quintile 3	10,128	2,026	5,138	1,028	4,990	998
Quintile 4	10,314	2,063	5,266	1,053	5,048	1,010
Least deprived	10,099	2,020	5,190	1,038	4,909	982
Unknown	4	1	4	1	0	0

Figure 12: Standardised incidence ratio comparing deprivation quintile to Northern Ireland for cancer (ex NMSC) diagnosed in 2017-2021



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

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

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

INCIDENCE BY DEPRIVATION AND CANCER TYPE

- While cancer incidence is higher in the most deprived communities overall, the relationship between cancer and socio-economic deprivation varies by cancer site.
- During 2017-2021 incidence of cervical cancer, gallbladder cancer (including other biliary), head and neck cancer, liver cancer, lung cancer (including trachea), oesophageal cancer, stomach cancer and unknown primary cancer was higher in the most deprived areas than the NI average.
- During 2017-2021 incidence of malignant melanoma and prostate cancer was higher in the least deprived areas than the NI average.

Table 6: Incidence and deprivation by cancer type in 2017-2021

Higher in most deprived areas	Higher in least deprived areas	Not higher in either
Cervical cancer	Malignant melanoma	Bladder cancer
Gallbladder cancer (including other biliary)	Prostate cancer	Bone cancer
Head and neck cancer		Brain cancer (including central nervous system)
Liver cancer		Breast cancer
Lung cancer (including trachea)		Colorectal cancer
Oesophageal cancer		Kidney cancer
Stomach cancer		Leukaemia
Unknown primary cancer		Lymphoma
		Mesothelioma
		Multiple myeloma (including plasma cell neoplasms)
		Ovarian cancer (including fallopian tube)
		Pancreatic cancer
		Testicular cancer
		Thyroid cancer
		Uterine cancer

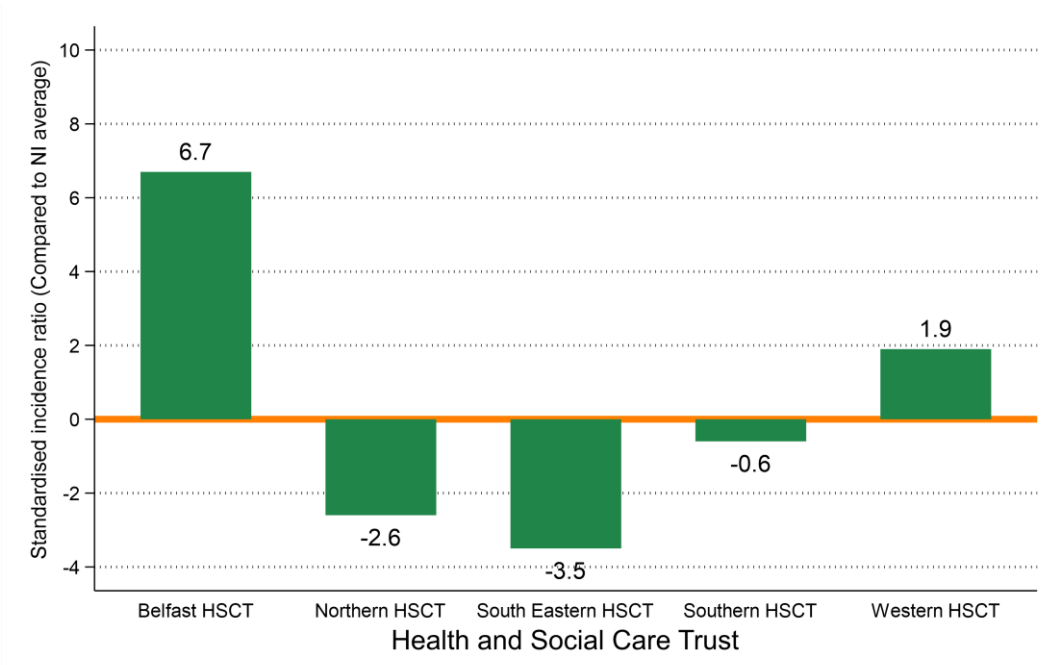
INCIDENCE BY HEALTH AND SOCIAL CARE TRUST

- The number of cases of cancer (ex NMSC) diagnosed during 2017-2021 varied in each Health and Social Care Trust due to variations in population size and age.
- After accounting for these factors, incidence rates:
  - in Belfast HSCT were 6.7% higher than the NI average.
  - in Northern HSCT were 2.6% lower than the NI average.
  - in South Eastern HSCT were 3.5% 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.

Table 7: Number of cases of cancer (ex NMSC) diagnosed in 2017-2021 by Health and Social Care Trust

Health and Social Care Trust	All persons		Male		Female	
	Total cases in period	Average cases per year	Total cases in period	Average cases per year	Total cases in period	Average cases per year
Northern Ireland	**50,307**	**10,061**	**25,601**	**5,120**	**24,706**	**4,941**
	.	.	.	.	.	.
Belfast HSCT	9,703	1,941	4,816	963	4,887	977
Northern HSCT	12,997	2,599	6,705	1,341	6,292	1,258
South Eastern HSCT	10,186	2,037	5,228	1,046	4,958	992
Southern HSCT	9,420	1,884	4,712	942	4,708	942
Western HSCT	7,997	1,599	4,136	827	3,861	772
Unknown	4	1	4	1	0	0

Figure 13: Standardised incidence ratio comparing Health and Social Care Trust to Northern Ireland for cancer (ex NMSC) diagnosed in 2017-2021



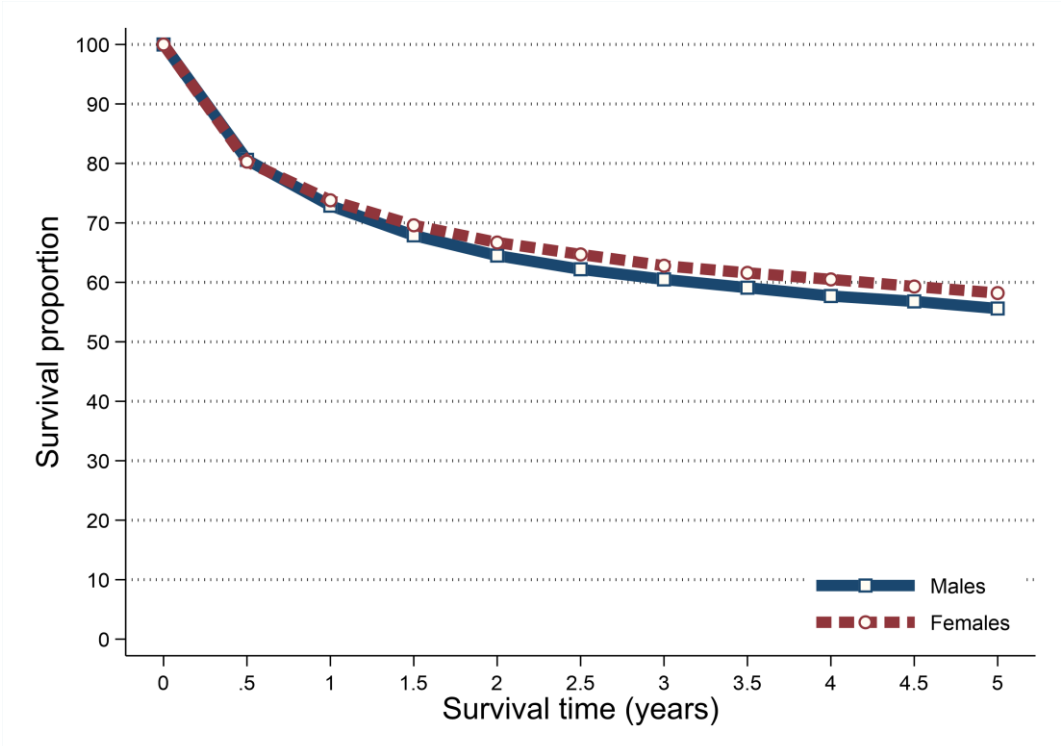
SURVIVAL

- 71.1% of patients were alive one year and 50.2% were alive five years from a cancer (ex NMSC) diagnosis in 2012-2016. (observed survival)
- Age-standardised net survival (ASNS), which removes the effect of deaths from causes unrelated to cancer, was 73.5% one year and 57.2% five years from a cancer (ex NMSC) diagnosis in 2012-2016.
- Five-year survival (ASNS) for cancer (ex NMSC) patients diagnosed in 2012-2016 was 55.6% among men and 58.2% among women.

Table 8: Survival from cancer (ex NMSC) for patients diagnosed in 2012-2016

Time since diagnosis	All persons		Male		Female	
	Observed survival	Age-standardised net survival	Observed survival	Age-standardised net survival	Observed survival	Age-standardised net survival
6 months	78.9%	80.6%	78.4%	80.6%	79.5%	80.3%
One year	71.1%	73.5%	69.7%	72.9%	72.5%	73.8%
Two years	62.1%	65.9%	59.8%	64.5%	64.4%	66.7%
Five years	50.2%	57.2%	47.0%	55.6%	53.4%	58.2%

Figure 14: Age-standardised net survival from cancer (ex NMSC) for patients diagnosed in 2012-2016



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

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

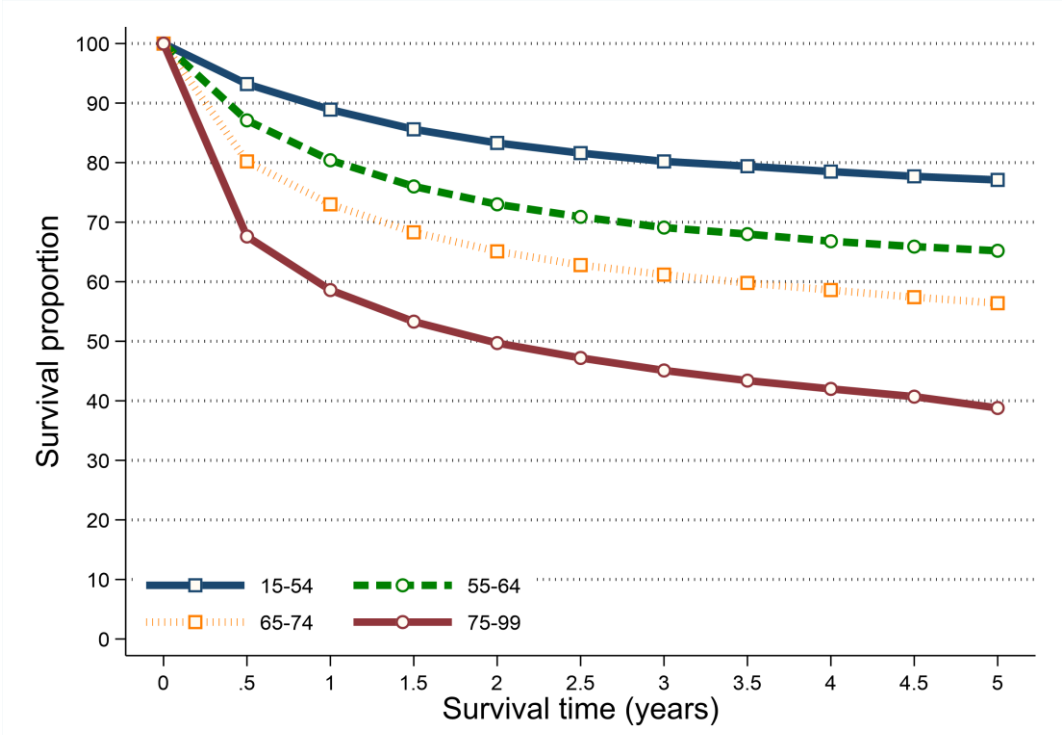
SURVIVAL BY AGE

- Survival from cancer (ex NMSC) among patients diagnosed during 2012-2016 was related to age with better five-year survival among younger age groups.
- Five-year net survival ranged from 77.1% among patients aged 15 to 54 at diagnosis to 38.8% among those aged 75 to 99.
- Five-year net survival for cancer (ex NMSC) patients aged 75 to 99 at diagnosis in 2012-2016 was 40.4% among men compared to 37.0% among women.

Table 9: Net survival from cancer (ex NMSC) for patients diagnosed in 2012-2016 by age at diagnosis

Age group	All persons		Male		Female	
	One-year	Five-years	One-year	Five-years	One-year	Five-years
15 to 54	88.9%	77.1%	83.1%	69.0%	92.2%	81.9%
55 to 64	80.4%	65.2%	79.1%	62.4%	81.8%	68.1%
65 to 74	73.0%	56.4%	72.7%	56.6%	73.4%	56.1%
75 to 99	58.6%	38.8%	61.4%	40.4%	55.7%	37.0%

Figure 15: Net survival from cancer (ex NMSC) for patients diagnosed in 2012-2016 by age at diagnosis

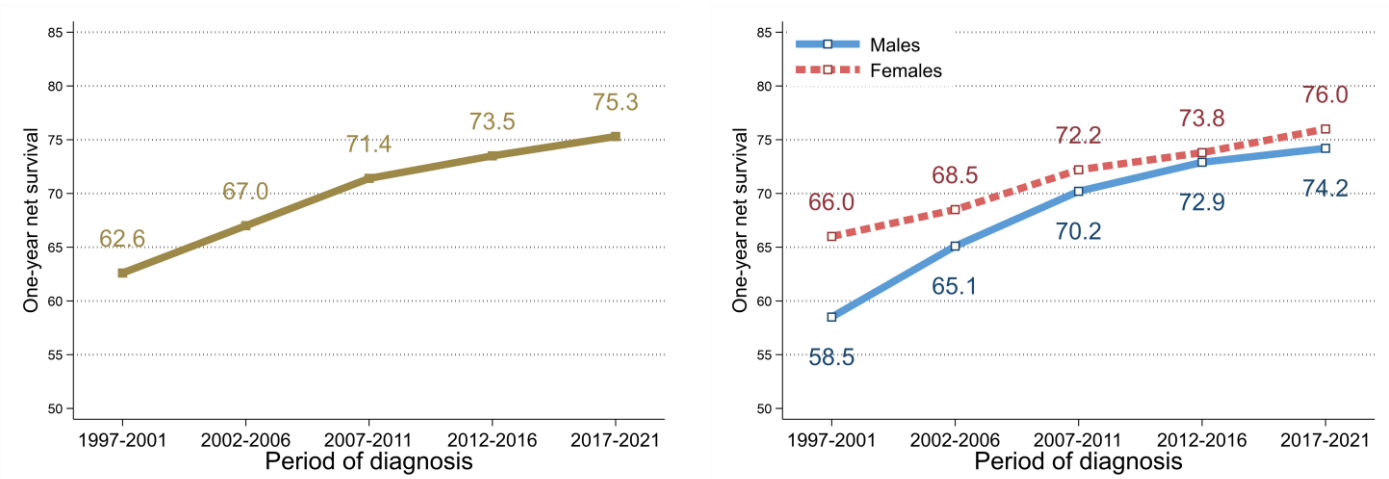


SURVIVAL TRENDS

ONE-YEAR NET SURVIVAL

- Between 2012-2016 and 2017-2021 there was a significant increase from 73.5% to 75.3% in one-year survival (ASNS) from cancer (ex NMSC). This increase was significant for females (73.8% to 76.0%) but not males.
- Compared to 1997-2001 one-year survival (ASNS) from cancer (ex NMSC) in 2017-2021 increased significantly from 62.6% to 75.3%. This increase was significant for males (58.5% to 74.2%) and females (66.0% to 76.0%).

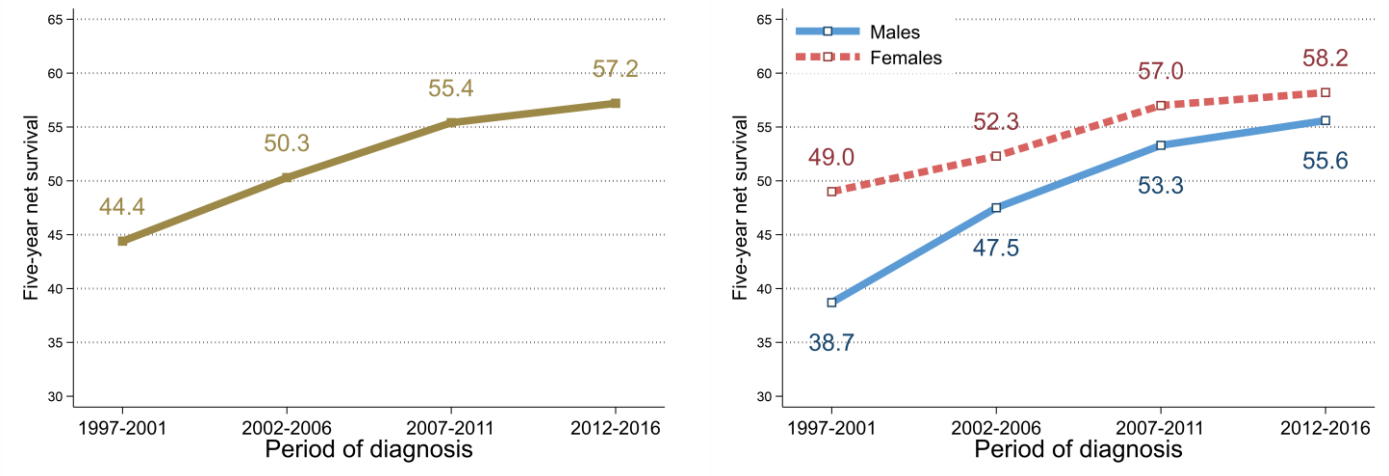
Figure 16: Trends in one-year age-standardised net survival from cancer (ex NMSC) in 1997-2021



FIVE-YEAR NET SURVIVAL

- Between 2007-2011 and 2012-2016 there was a significant increase from 55.4% to 57.2% in five-year survival (ASNS) from cancer (ex NMSC). This increase was significant for males (53.3% to 55.6%) but not females.
- Compared to 1997-2001 five-year survival (ASNS) from cancer (ex NMSC) in 2012-2016 increased significantly from 44.4% to 57.2%. This increase was significant for males (38.7% to 55.6%) and females (49.0% to 58.2%).

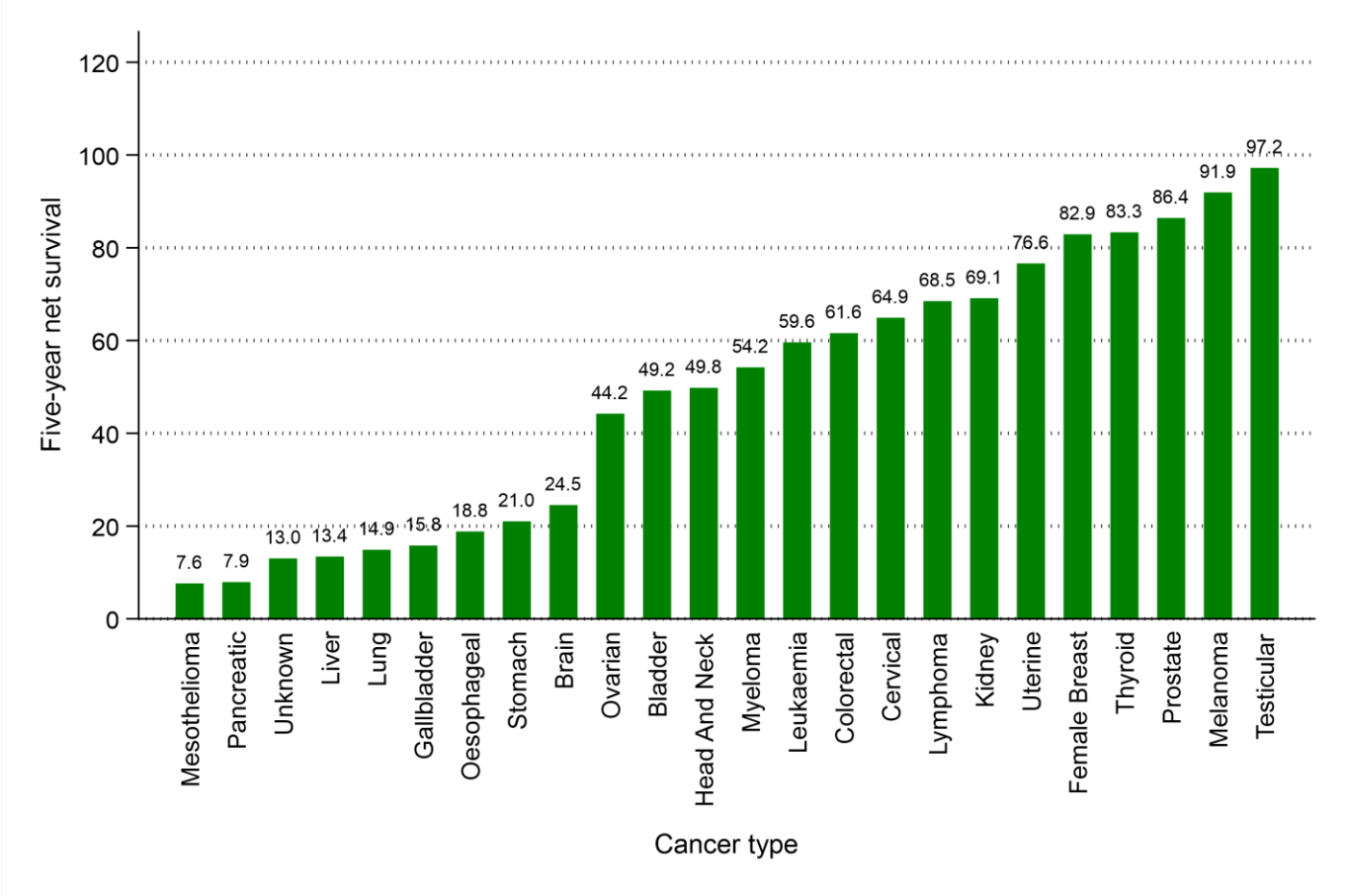
Figure 17: Trends in five-year age-standardised net survival from cancer (ex NMSC) in 1997-2016



SURVIVAL BY CANCER TYPE

- Five-year survival (ASNS) for patients diagnosed in 2012-2016 ranged from 97.2% for testicular cancer to 7.6% for mesothelioma and 7.9% for pancreatic cancer.
- In particular five-year survival (ASNS) for the most common cancer types was 82.9% for female breast cancer, 14.9% for lung cancer (including trachea), 86.4% for prostate cancer and 61.6% for colorectal cancer.

Figure 18: Five-year age-standardised net survival from cancer (ex NMSC) for patients diagnosed in 2012-2016 by cancer type



- Five-year survival (ASNS) showed significant improvement between 2007-2011 and 2012-2016 for kidney cancer (58.2% to 69.1%), lung cancer (10.9% to 14.9%), mesothelioma (2.0% to 7.6%) and male colorectal cancer (58.0% to 62.5%).
- Five-year survival (ASNS) did not decrease significantly for any cancer type between 2007-2011 and 2012-2016.

Table 10: Trends in five-year age-standardised net survival from cancer (ex NMSC) for patients diagnosed in 2007-2016

Cancer type	All persons		Male		Female	
	2007-2011	2012-2016	2007-2011	2012-2016	2007-2011	2012-2016
Bladder cancer	51.2%	49.2%	55.6%	51.9%	40.9%	42.6%
Brain cancer (including central nervous system)	24.9%	24.5%	23.2%	20.8%	27.7%	29.8%
Breast cancer	81.0%	82.8%	70.6%	73.0%	81.0%	82.9%
Cervical cancer	64.0%	64.9%			64.0%	64.9%
Colorectal cancer	59.0%	61.6%	58.0%	62.5%*	60.4%	60.1%
Gallbladder cancer (including other biliary)	12.1%	15.8%	10.3%	16.1%	13.4%	15.7%
Head and neck cancer	54.7%	49.8%	54.2%	49.2%	56.1%	51.8%
Kidney cancer	58.2%	69.1%*	58.9%	65.9%	57.2%	73.9%*
Leukaemia	56.5%	59.6%	56.0%	61.0%	57.0%	57.7%
Liver cancer	10.2%	13.4%	9.1%	14.4%	13.5%	10.4%
Lung cancer (including trachea)	10.9%	14.9%*	10.6%	13.0%	11.3%	17.0%*
Lymphoma	64.7%	68.5%	62.2%	68.1%	67.1%	69.4%
Malignant melanoma	90.3%	91.9%	88.0%	89.8%	91.8%	93.5%
Mesothelioma	2.0%	7.6%*	1.2%	3.4%	9.2%	10.8%
Multiple myeloma (including plasma cell neoplasms)	51.6%	54.2%	53.0%	51.4%	48.9%	58.2%
Oesophageal cancer	18.5%	18.8%	17.9%	18.7%	21.5%	19.8%
Ovarian cancer (including fallopian tube)	41.9%	44.2%			41.9%	44.2%
Pancreatic cancer	4.6%	7.9%	4.4%	8.0%	4.8%	7.9%
Prostate cancer	87.2%	86.4%	87.2%	86.4%		
Stomach cancer	20.5%	21.0%	19.4%	19.4%	22.1%	24.6%
Testicular cancer	92.4%	97.2%	92.4%	97.2%		
Thyroid cancer	82.0%	83.3%	76.8%	82.6%	84.2%	83.7%
Unknown primary cancer	9.5%	13.0%	10.4%	13.1%	8.8%	12.6%
Uterine cancer	77.5%	76.6%			77.5%	76.6%

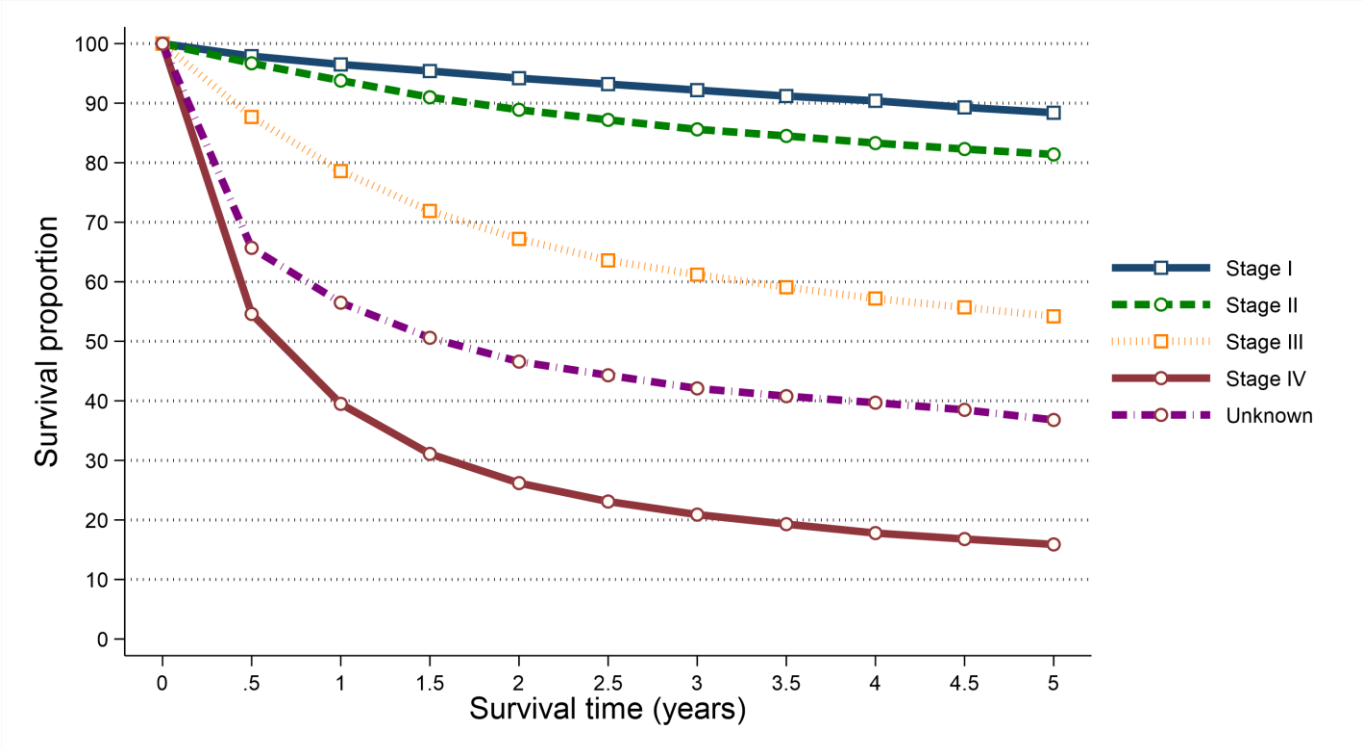
SURVIVAL BY STAGE

- Survival from cancer (ex NMSC) among patients diagnosed during 2012-2016 was strongly related to stage with better five-year survival among those diagnosed at earlier stages.
- Five-year survival (ASNS) ranged from 88.4% among patients diagnosed at Stage I to 15.9% among those diagnosed at Stage IV.
- Five-year survival (ASNS) for cancer (ex NMSC) patients diagnosed at Stage IV in 2012-2016 was 18.6% among men compared to 11.9% among women.

Table 11: Age-standardised net survival from cancer (ex NMSC) for patients diagnosed in 2012-2016 by stage at diagnosis

Stage at diagnosis	All persons		Male		Female	
	One-year	Five-years	One-year	Five-years	One-year	Five-years
Stage I	96.5%	88.4%	96.4%	87.6%	96.5%	89.1%
Stage II	93.8%	81.4%	93.6%	81.2%	93.9%	81.1%
Stage III	78.6%	54.2%	81.4%	59.9%	75.4%	47.2%
Stage IV	39.5%	15.9%	43.0%	18.6%	34.1%	11.9%
Unknown	56.5%	36.8%	57.2%	36.6%	55.9%	37.3%

Figure 19: Age-standardised net survival from cancer (ex NMSC) for patients diagnosed in 2012-2016 by stage at diagnosis



PREVALENCE

- At the end of 2021, there were 71,412 people (Males: 32,037; Females: 39,375) living with cancer (ex NMSC) who had been diagnosed with the disease during 1997-2021.
- Of these 11.4% had been diagnosed in the previous year (one-year prevalence) and 67.8% in the previous 10 years (ten-year prevalence).
- 34.5% of cancer (ex NMSC) survivors were aged 75 and over at the end of 2021.

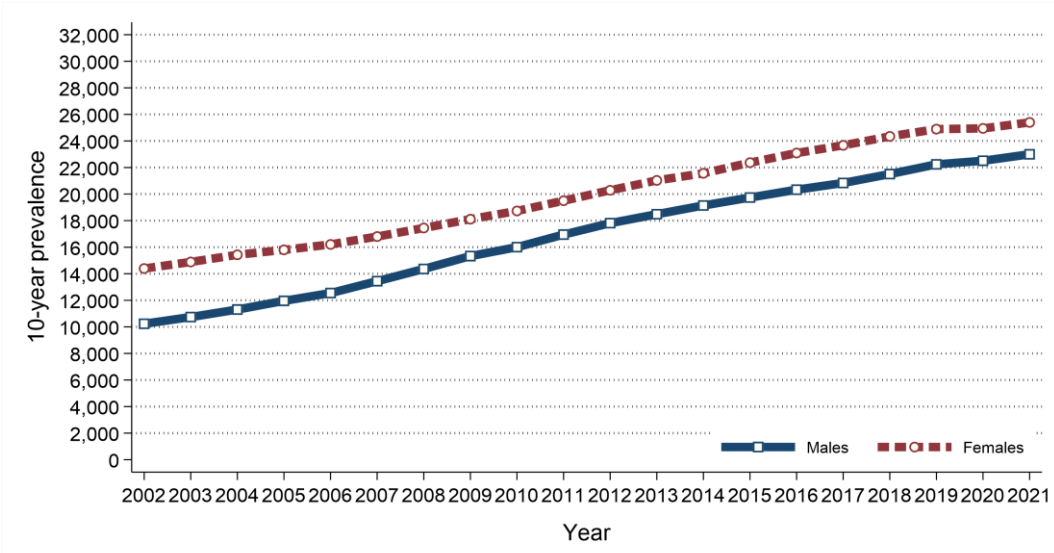
Table 12: 25-year prevalence of cancer (ex NMSC) by age at end of 2021

Gender	Age at end of 2021	25-year prevalence	Time since diagnosis			
			0 to 1 year	1 to 5 years	5 to 10 years	10 to 25 years
All persons	All ages	71,412	8,134	21,987	18,274	23,017
	0 to 74	46,764	5,641	15,376	12,051	13,696
	75 and over	24,648	2,493	6,611	6,223	9,321
Male	All ages	32,037	4,139	10,577	8,281	9,040
	0 to 74	19,596	2,746	7,021	5,026	4,803
	75 and over	12,441	1,393	3,556	3,255	4,237
Female	All ages	39,375	3,995	11,410	9,993	13,977
	0 to 74	27,168	2,895	8,355	7,025	8,893
	75 and over	12,207	1,100	3,055	2,968	5,084

PREVALENCE TRENDS

- 10-year prevalence of cancer (ex NMSC) among males increased between 2016 and 2021 by 13.1% from 20,332 survivors to 22,997 survivors.
- 10-year prevalence of cancer (ex NMSC) among females increased between 2016 and 2021 by 10.0% from 23,094 survivors to 25,398 survivors.

Figure 20: Trends in 10-year prevalence of cancer (ex NMSC) in 2002-2021



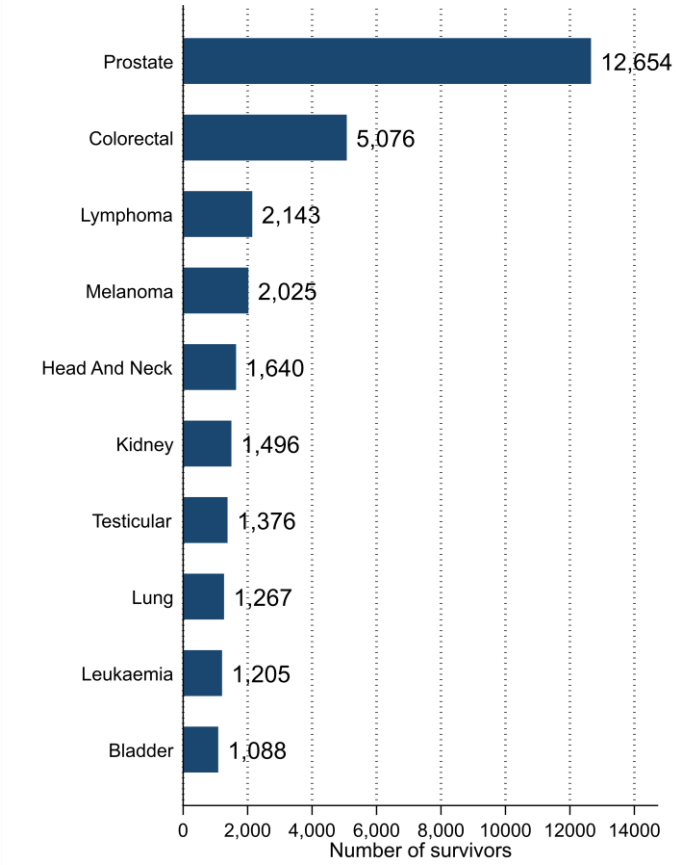
Year	10-year prevalence	
	Males	Females
2012	17,813	20,289
2013	18,485	21,031
2014	19,141	21,563
2015	19,742	22,366
2016	20,332	23,094
2017	20,836	23,670
2018	21,507	24,343
2019	22,241	24,893
2020	22,509	24,945
2021	22,997	25,398

PREVALENCE BY CANCER TYPE

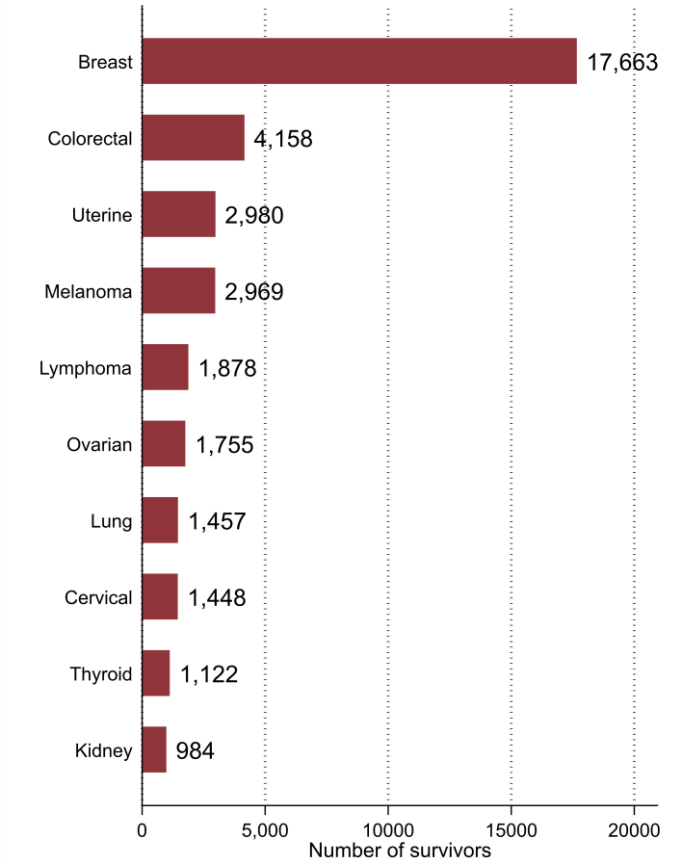
- At the end of 2021 the most prevalent cancer types among males were prostate cancer (12,654), colorectal cancer (5,076) and lymphoma (2,143). Among females they were breast cancer (17,663), colorectal cancer (4,158) and uterine cancer (2,980).

Figure 21: 25-year prevalence of at the end of 2021 by cancer type

MALE



FEMALE



MORTALITY

- There were 22,414 deaths from cancer (excluding non-melanoma skin cancer) during 2017-2021 in Northern Ireland. On average this was 4,483 deaths per year.
- During this period 47.6% of cancer (ex NMSC) deaths were among women (Male deaths: 11,753, Female deaths: 10,661). On average there were 2,351 male and 2,132 female deaths from cancer (ex NMSC) per year.
- The median age of patients who died from cancer (ex NMSC) during 2017-2021 was 75 years (Males: 75, Females: 76).
- The risk of dying from cancer (ex NMSC) varied by age, with 51.8% of men and 53.1% of women who died from cancer (ex NMSC) aged 75 and over at death.
- In contrast, 7.4% of patients who died from cancer (ex NMSC) were aged 0 to 54 at death.

Figure 22: Average number of deaths from cancer (ex NMSC) per year in 2017-2021 by age at death

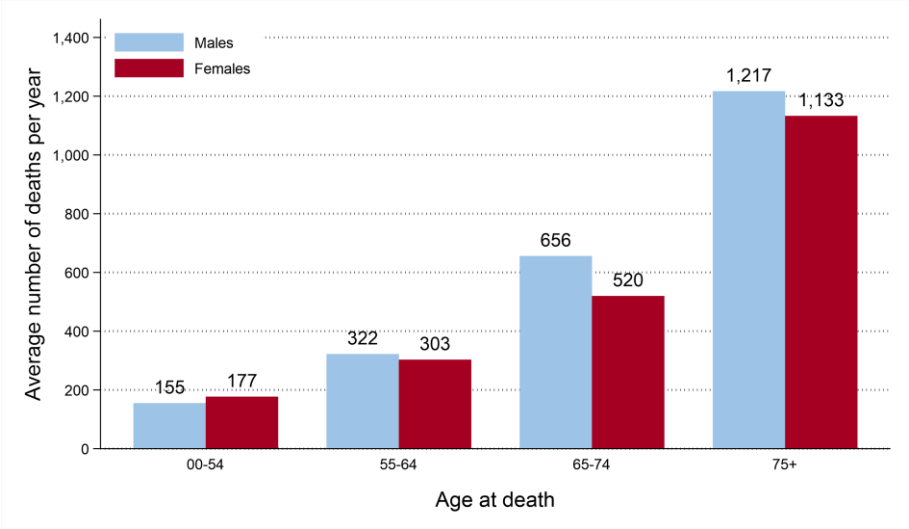
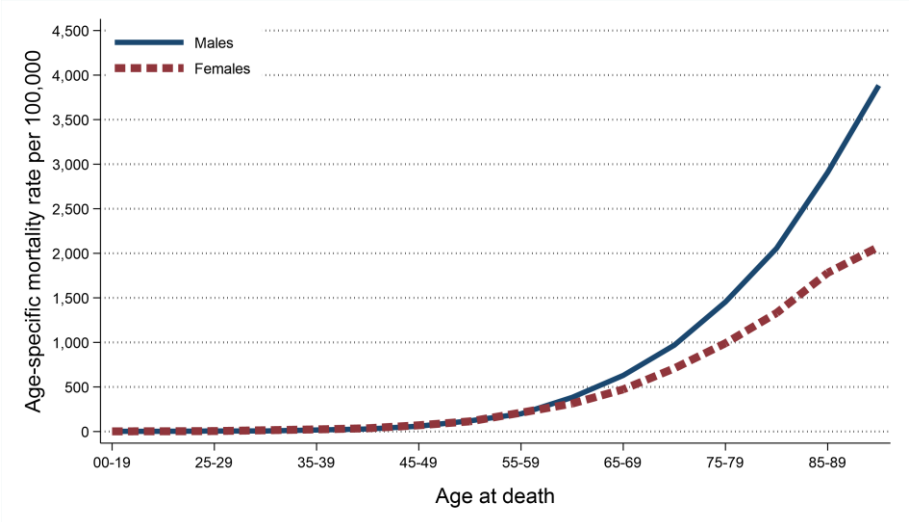


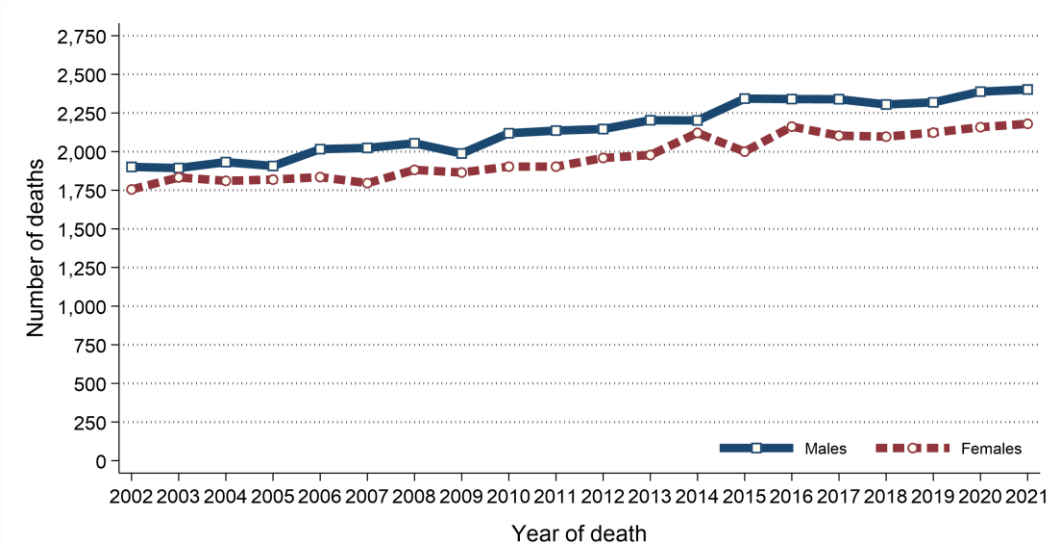
Figure 23: Age-specific mortality rates of cancer (ex NMSC) in 2017-2021



MORTALITY TRENDS

- The number of deaths from cancer (ex NMSC) among males increased between 2012-2016 and 2017-2021 by 4.6% from 11,234 deaths (2,247 deaths per year) to 11,753 deaths (2,351 deaths per year).
- The number of deaths from cancer (ex NMSC) among females increased between 2012-2016 and 2017-2021 by 4.3% from 10,220 deaths (2,044 deaths per year) to 10,661 deaths (2,132 deaths per year).

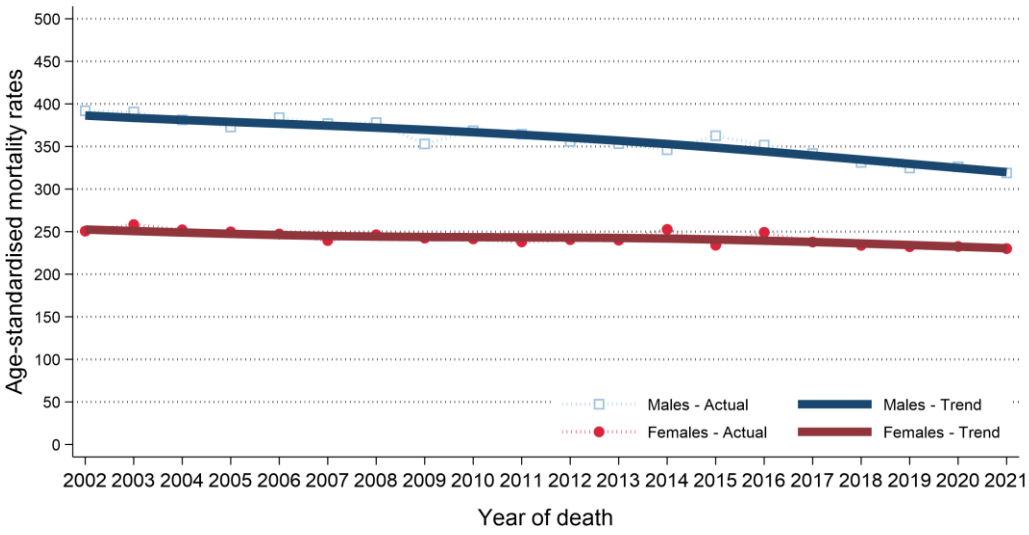
Figure 24: Trends in the number of deaths from cancer (ex NMSC) from 2002 to 2021



Year of death	Number of deaths	
	Males	Females
2012	2,146	1,959
2013	2,203	1,978
2014	2,202	2,121
2015	2,343	2,000
2016	2,340	2,162
2017	2,339	2,103
2018	2,305	2,097
2019	2,319	2,123
2020	2,388	2,158
2021	2,402	2,180

- Male age-standardised cancer (ex NMSC) mortality rates decreased between 2012-2016 and 2017-2021 by 7.3% from 354.1 to 328.3 deaths per 100,000 males. This change was statistically significant.
- Female age-standardised cancer (ex NMSC) mortality rates decreased between 2012-2016 and 2017-2021 by 4.1% from 243.4 to 233.3 deaths per 100,000 females. This change was statistically significant.

Figure 25: Trends in mortality rates of cancer (ex NMSC) from 2002 to 2021



Age-standardised mortality rates illustrate the change in the number of deaths within a population of a fixed size and age structure (2013 European Standard).

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

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

MORTALITY BY CANCER TYPE

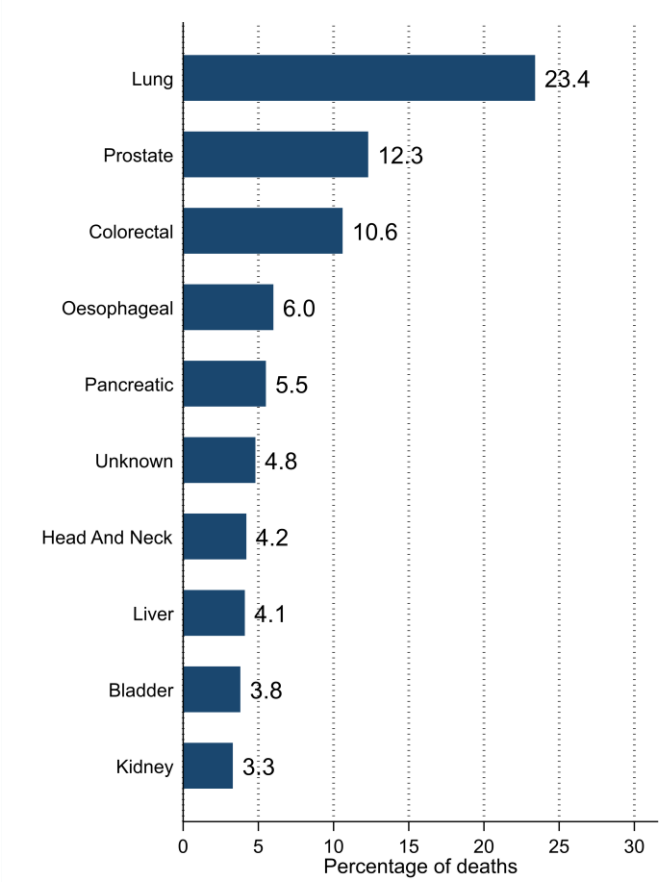
- During 2017-2021 the most common causes of cancer (ex NMSC) death among males were lung cancer (including trachea) (23.4%), prostate cancer (12.3%) and colorectal cancer (10.6%). Among females they were lung cancer (including trachea) (22.6%), breast cancer (14.6%) and colorectal cancer (9.7%).

Table 13: Number of deaths from cancer (ex NMSC) in 2017-2021 by cancer type

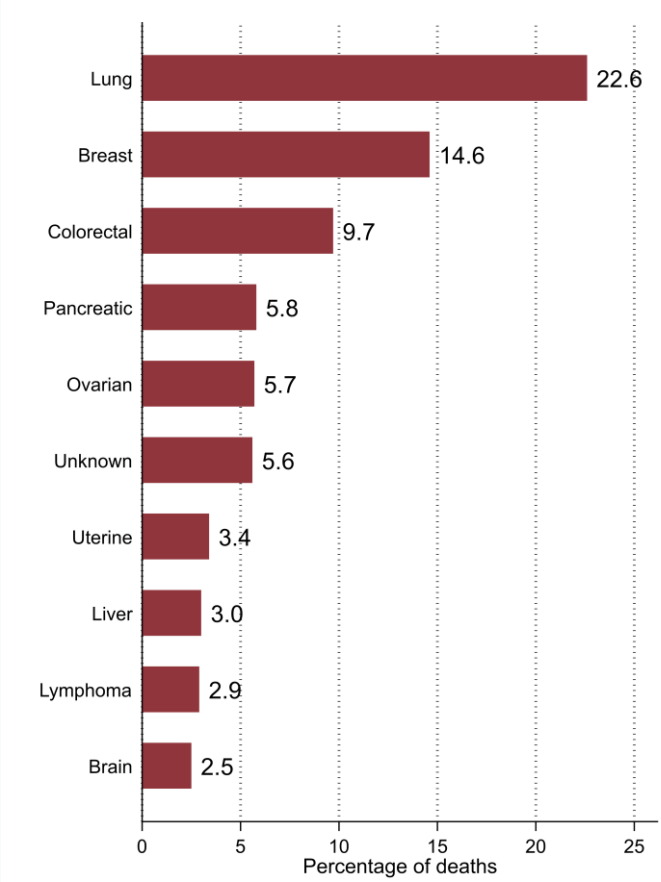
Cancer type	All persons		Male		Female	
	Total deaths in period	Average deaths per year	Total deaths in period	Average deaths per year	Total deaths in period	Average deaths per year
All cancers (ex NMSC)	**22,414**	**4,483**	**11,753**	**2,351**	**10,661**	**2,132**
	.	.	.	.	.	.
Bladder cancer	677	135	445	89	232	46
Bone cancer	40	8	12	2	28	6
Brain cancer (including central nervous system)	641	128	374	75	267	53
Breast cancer	1,579	316	18	4	1,561	312
Cervical cancer	101	20	.	.	101	20
Colorectal cancer	2,273	455	1,241	248	1,032	206
Gallbladder cancer (including other biliary)	173	35	50	10	123	25
Head and neck cancer	702	140	496	99	206	41
Kidney cancer	565	113	382	76	183	37
Leukaemia	555	111	315	63	240	48
Liver cancer	800	160	483	97	317	63
Lung cancer (including trachea)	5,167	1,033	2,755	551	2,412	482
Lymphoma	683	137	371	74	312	62
Malignant melanoma	300	60	165	33	135	27
Mesothelioma	235	47	187	37	48	10
Multiple myeloma (including plasma cell neoplasms)	421	84	232	46	189	38
Oesophageal cancer	964	193	701	140	263	53
Ovarian cancer (including fallopian tube)	609	122	.	.	609	122
Pancreatic cancer	1,267	253	651	130	616	123
Prostate cancer	1,443	289	1,443	289	.	.
Stomach cancer	588	118	346	69	242	48
Thyroid cancer	56	11	29	6	27	5
Unknown primary cancer	1,157	231	560	112	597	119
Uterine cancer	367	73	.	.	367	73
Other cancer (ex NMSC)	1,051	210	497	99	554	111

Figure 26: Proportion of deaths from cancer (ex NMSC) in 2017-2021 by cancer type

MALE



FEMALE



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

Geographic areas: Geographic areas are assigned based on a patient's postcode of usual residence at diagnosis using the Jan 2023 Central Postcode Directory (CPD) produced by the NI Statistics and Research Agency (available at www.nisra.gov.uk).

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

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

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

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

Confidence intervals measure the precision of a statistic (e.g. cancer (ex NMSC) 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. cancer (ex NMSC) 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 2021 in this report). Since data from the NI Cancer Registry are only available since 1993, prevalence only refers to a fixed term (10 and 25 years in this report). There may be members of the population living with a diagnosis of cancer for more than 25 years.

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