
Cancer among older people

1993-2021

(Excluding non-melanoma skin cancer)

(ICD10 codes: C00-C43, C45-C97; Aged 75+)



Northern Ireland Cancer Registry, 2024

An official statistics publication

ABOUT THIS REPORT

Contents

This report includes information on incidence of cancer among older people (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. Cancer among older people: 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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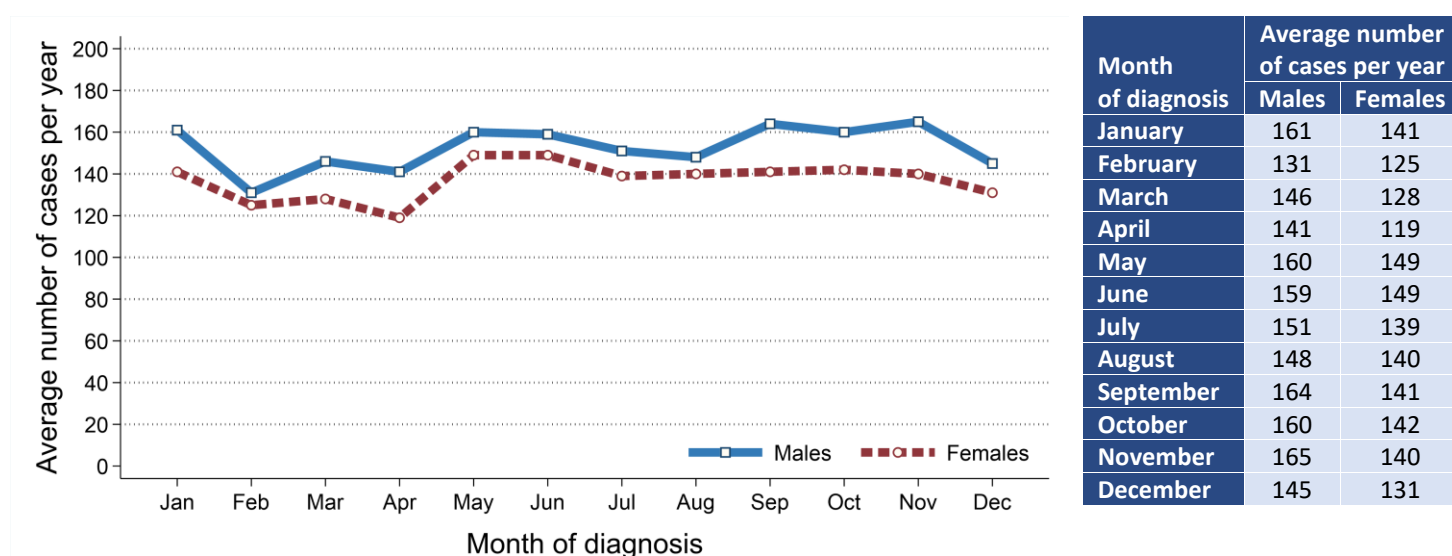
NICR is funded by the Public Health Agency and is based in Queen's University, Belfast.



INCIDENCE

- There were 17,367 cases of cancer among older people (excluding non-melanoma skin cancer) diagnosed during 2017-2021 in Northern Ireland. On average this was 3,473 cases per year.
- During this period 47.3% of cancer cases among those aged 75 and over were among women (Male cases: 9,150, Female cases: 8,217). On average there were 1,830 male and 1,643 female cases of cancer among older people per year.
- The most common diagnosis month during 2017-2021 was November among males with 165 cases per year and May and June among females with 149 cases per year.

Figure 1: Average number of cases of cancer among older people per year in 2017-2021 by month of diagnosis



- Among people aged 75 and over the cancer incidence rates for each gender were 3,047.4 cases per 100,000 males aged 75 and over and 1,979.4 cases per 100,000 females aged 75 and over.

INCIDENCE BY CANCER TYPE

- During 2017-2021 the most common cancer types among males aged 75 and over were:
 - prostate cancer (25.0%),
 - lung cancer (including trachea) (16.4%) and
 - colorectal cancer (14.4%).
- Among females aged 75 and over they were:
 - breast cancer (20.5%),
 - lung cancer (including trachea) (16.5%) and
 - colorectal cancer (14.4%).

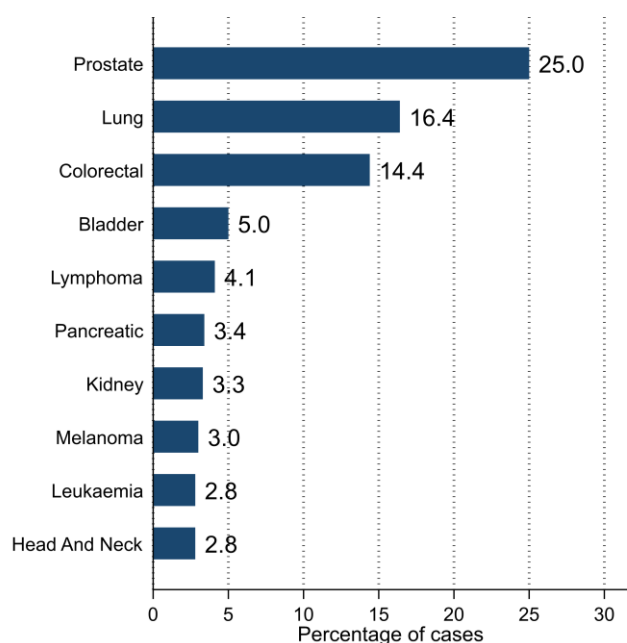
Table 1: Number of cases of cancer among older people diagnosed in 2017-2021 by cancer type

Common cancer types	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
Cancer among older people	17,367	3,473	9,150	1,830	8,217	1,643
Bladder cancer	651	130	459	92	192	38
Brain cancer (including central nervous system)	219	44	124	25	95	19
Breast cancer	1,701	340	19	4	1,682	336
Cervical cancer	28	6	.	.	28	6
Colorectal cancer	2,499	500	1,316	263	1,183	237
Head and neck cancer	389	78	255	51	134	27
Kidney cancer	480	96	300	60	180	36
Leukaemia	457	91	259	52	198	40
Liver cancer	321	64	198	40	123	25
Lung cancer (including trachea)	2,854	571	1,498	300	1,356	271
Lymphoma	710	142	379	76	331	66
Malignant melanoma	520	104	272	54	248	50
Multiple myeloma	362	72	200	40	162	32
Oesophageal cancer	394	79	246	49	148	30
Ovarian cancer (including fallopian tube)	290	58	.	.	290	58
Pancreatic cancer	647	129	310	62	337	67
Prostate cancer	2,286	457	2,286	457	.	.
Stomach cancer	442	88	250	50	192	38
Thyroid cancer	67	13	24	5	43	9
Unknown primary cancer	550	110	224	45	326	65
Uterine cancer	357	71	.	.	357	71

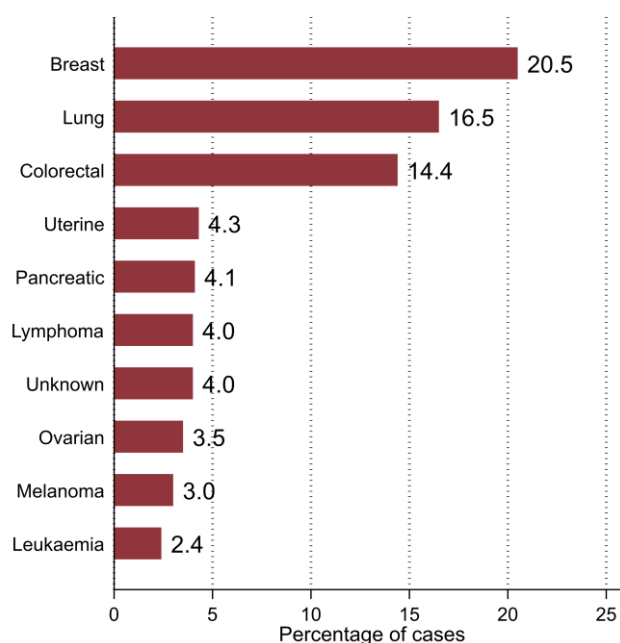
Note: Totals include other less common cancer types not listed in the table

Figure 2: Proportion of cases of cancer among older people in 2017-2021 by cancer type

MALE



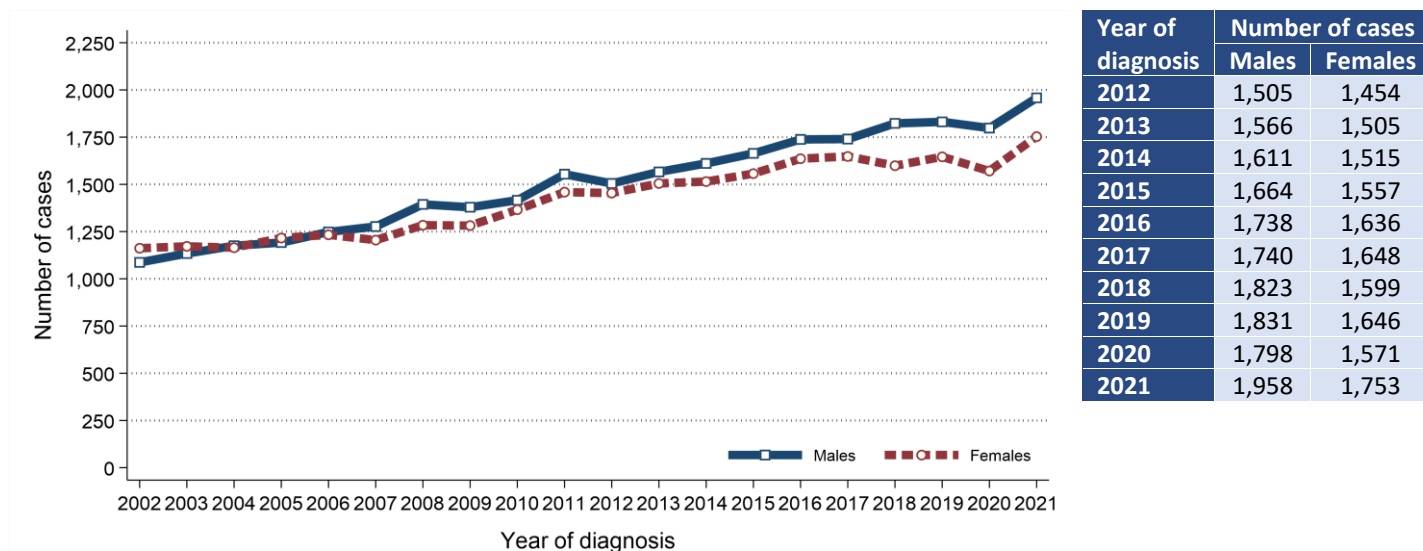
FEMALE



INCIDENCE TRENDS

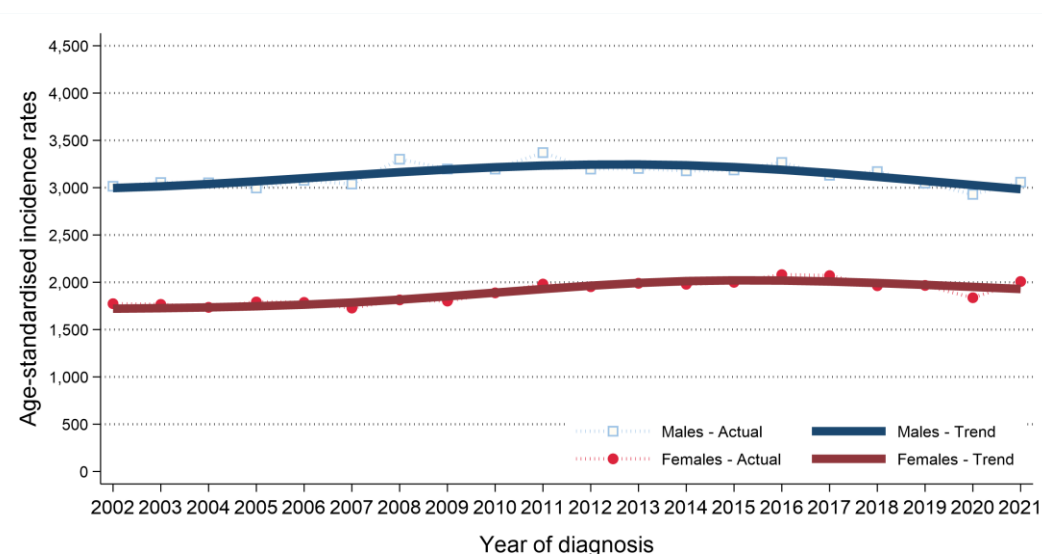
- The number of cases of cancer among males aged 75 and over increased between 2012-2016 and 2017-2021 by 13.2% from 8,084 cases (1,617 cases per year) to 9,150 cases (1,830 cases per year).
- The number of cases of cancer among females aged 75 and over increased between 2012-2016 and 2017-2021 by 7.2% from 7,667 cases (1,533 cases per year) to 8,217 cases (1,643 cases per year).

Figure 3: Trends in number of cases of cancer among older people diagnosed from 2002 to 2021



- Male age-standardised cancer incidence rates among those aged 75 and over decreased between 2012-2016 and 2017-2021 by 4.4% from 3,206.5 to 3,064.4 cases per 100,000 males. This change was statistically significant.
- Female age-standardised cancer incidence rates among those aged 75 and over decreased between 2012-2016 and 2017-2021 by 1.7% from 2,001.7 to 1,968.0 cases per 100,000 females. This change was not statistically significant.

Figure 4: Trends in incidence rates of cancer among older people 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).

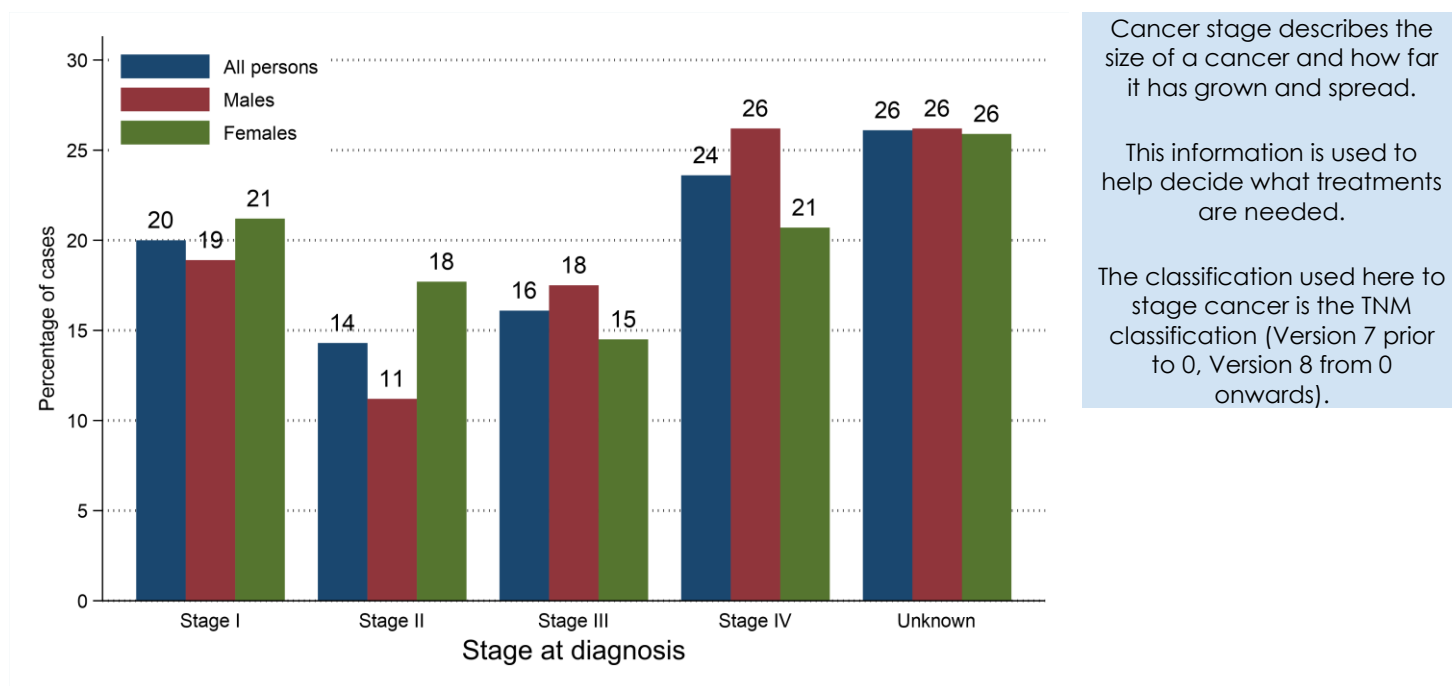
INCIDENCE BY STAGE AT DIAGNOSIS

- During 2017-2021 73.9% of cancer cases among older people had a stage assigned.
- 20.0% of cancer cases among older people were diagnosed at Stage I. (27.0% of staged cases)
- 23.6% of cancer cases among older people were diagnosed at Stage IV. (31.9% of staged cases)

Table 2: Number of cases of cancer among older people 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	17,367	3,473	9,150	1,830	8,217	1,643
Stage I	3,471	694	1,725	345	1,746	349
Stage II	2,477	495	1,022	204	1,455	291
Stage III	2,795	559	1,604	321	1,191	238
Stage IV	4,095	819	2,398	480	1,697	339
Unknown	4,529	906	2,401	480	2,128	426

Figure 5: Proportion of cases of cancer among older people diagnosed in 2017-2021 by stage at diagnosis



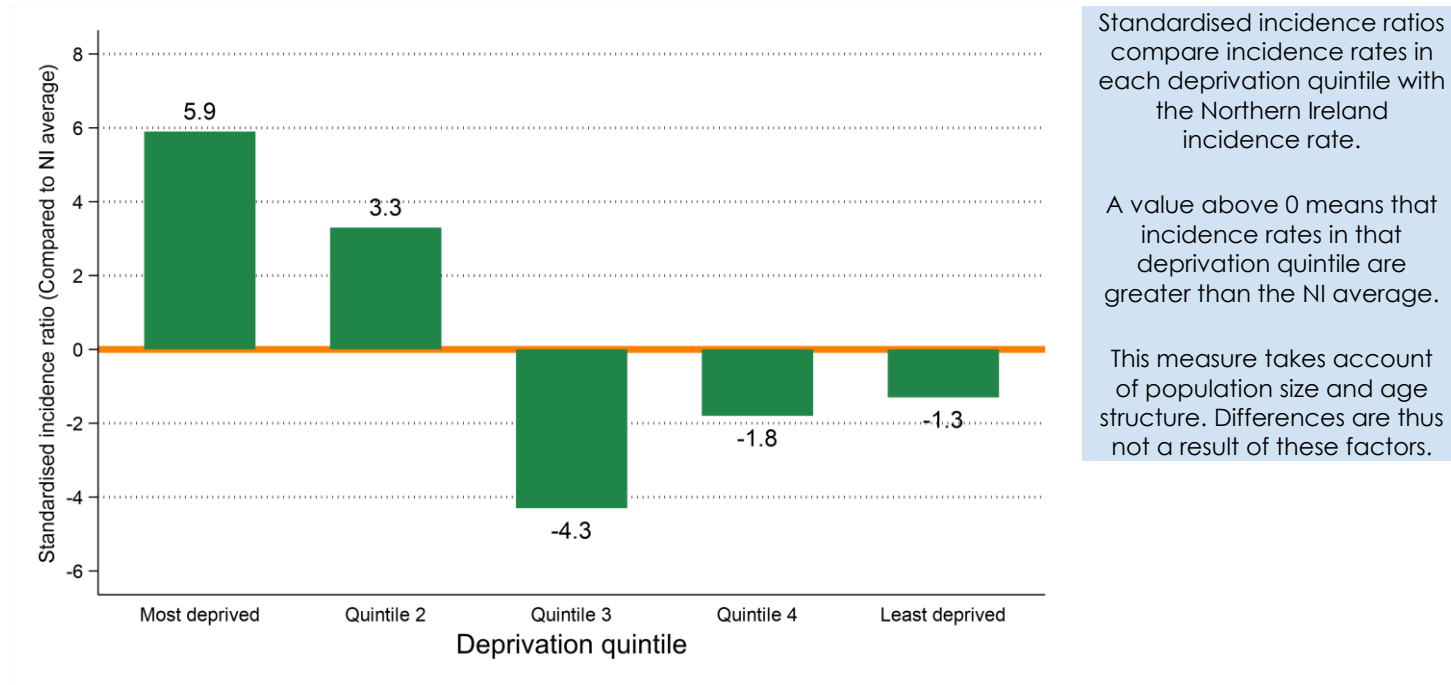
INCIDENCE BY DEPRIVATION

- The number of cases of cancer among older people 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 5.9% higher than the NI average.
 - in the least socio-economically deprived areas did not vary significantly from the NI average.

Table 3: Number of cases of cancer among older people 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	17,367	3,473	9,150	1,830	8,217	1,643
Most deprived	2,881	576	1,475	295	1,406	281
Quintile 2	3,582	716	1,872	374	1,710	342
Quintile 3	3,505	701	1,838	368	1,667	333
Quintile 4	3,576	715	1,924	385	1,652	330
Least deprived	3,823	765	2,041	408	1,782	356
Unknown	0	0	0	0	0	0

Figure 6: Standardised incidence ratio comparing deprivation quintile to Northern Ireland for cancer among older people diagnosed in 2017-2021



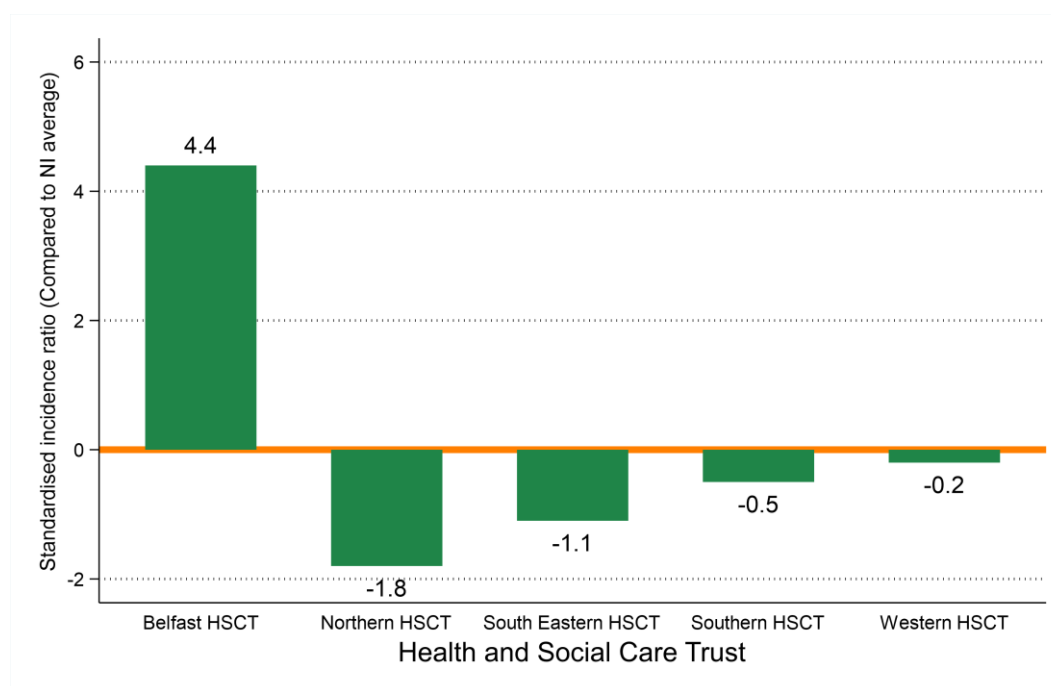
INCIDENCE BY HEALTH AND SOCIAL CARE TRUST

- The number of cases of cancer among older people 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 4.4% 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.

Table 4: Number of cases of cancer among older people 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	17,367	3,473	9,150	1,830	8,217	1,643
Belfast HSCT	3,472	694	1,733	347	1,739	348
Northern HSCT	4,610	922	2,472	494	2,138	428
South Eastern HSCT	3,655	731	1,947	389	1,708	342
Southern HSCT	3,111	622	1,644	329	1,467	293
Western HSCT	2,519	504	1,354	271	1,165	233
Unknown	0	0	0	0	0	0

Figure 7: Standardised incidence ratio comparing Health and Social Care Trust to Northern Ireland for cancer among older people diagnosed in 2017-2021



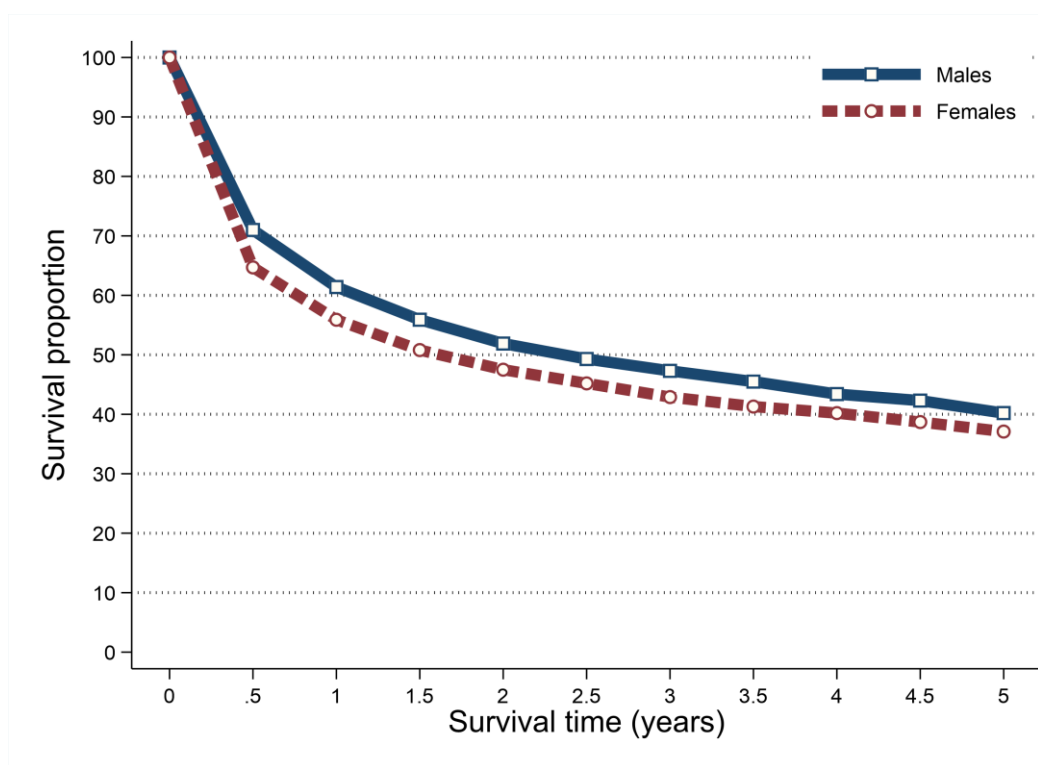
SURVIVAL

- 54.9% of patients aged 75 and over were alive one year and 27.1% were alive five years from a cancer diagnosis in 2012-2016. (observed survival)
- For those aged 75 and over net survival (NS), which removes the effect of deaths from causes unrelated to cancer, was 58.7% one year and 38.7% five years from a cancer diagnosis in 2012-2016.
- Five-year survival (NS) for cancer diagnosed among older people in 2012-2016 was 40.2% among men and 37.1% among women.

Table 5: Survival from cancer among older people diagnosed in 2012-2016

Time since diagnosis	All persons		Male		Female	
	Observed survival	Net survival	Observed survival	Net survival	Observed survival	Net survival
6 months	65.6%	67.9%	68.4%	71.0%	62.7%	64.7%
One year	54.9%	58.7%	57.2%	61.4%	52.6%	55.9%
Two years	43.5%	49.8%	45.0%	51.9%	41.9%	47.5%
Five years	27.1%	38.7%	27.6%	40.2%	26.5%	37.1%

Figure 8: Net survival from cancer among older people 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.

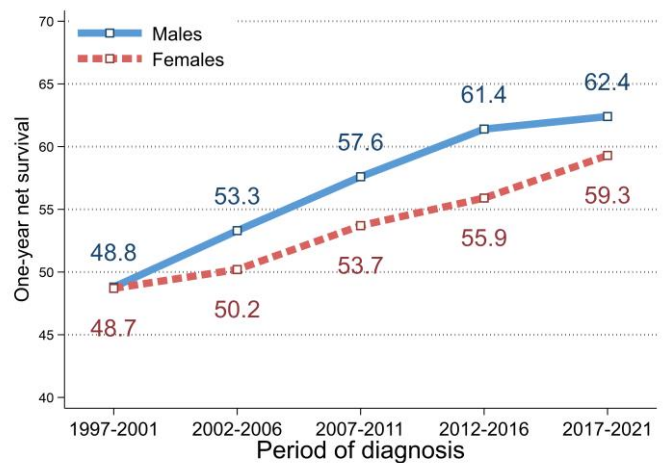
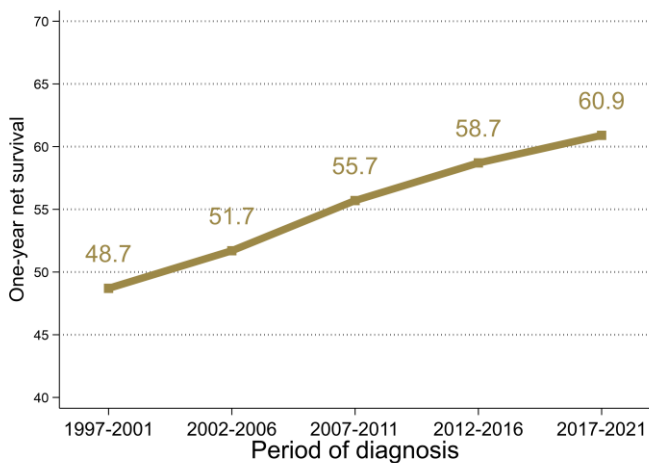
Net survival provides an estimate of patient survival which has been adjusted to take account of deaths unrelated to cancer. It is more widely used to assess the impact of changes in cancer care on patient survival.

SURVIVAL TRENDS

ONE-YEAR NET SURVIVAL

- Between 2012-2016 and 2017-2021 there was a significant increase from 58.7% to 60.9% in one-year survival (NS) from cancer among older people. This increase was significant for females (55.9% to 59.3%) but not males.
- Compared to 1997-2001 one-year survival (NS) from cancer among older people in 2017-2021 increased significantly from 48.7% to 60.9%. This increase was significant for males (48.8% to 62.4%) and females (48.7% to 59.3%).

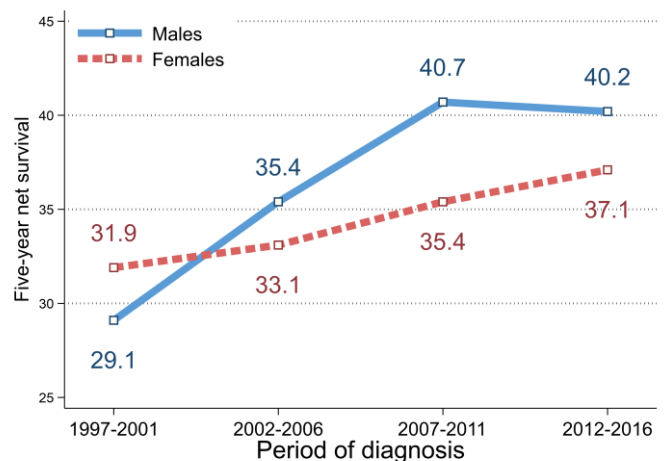
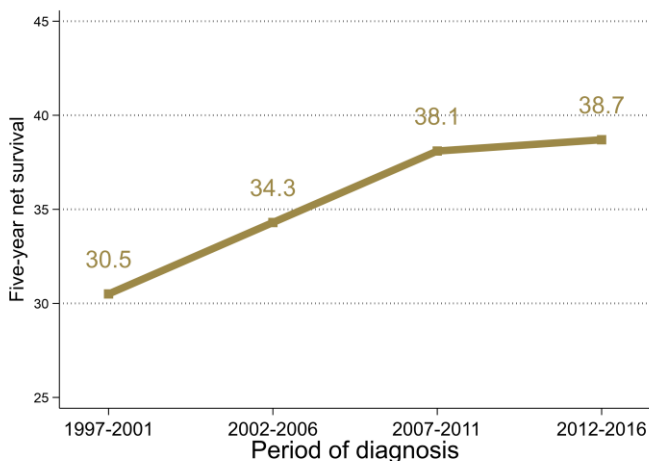
Figure 9: Trends in one-year net survival from cancer among older people in 1997-2021



FIVE-YEAR NET SURVIVAL

- Between 2007-2011 and 2012-2016 there was no significant change in five-year survival (NS) from cancer among older people.
- Compared to 1997-2001 five-year survival (NS) from cancer among older people in 2012-2016 increased significantly from 30.5% to 38.7%. This increase was significant for males (29.1% to 40.2%) and females (31.9% to 37.1%).

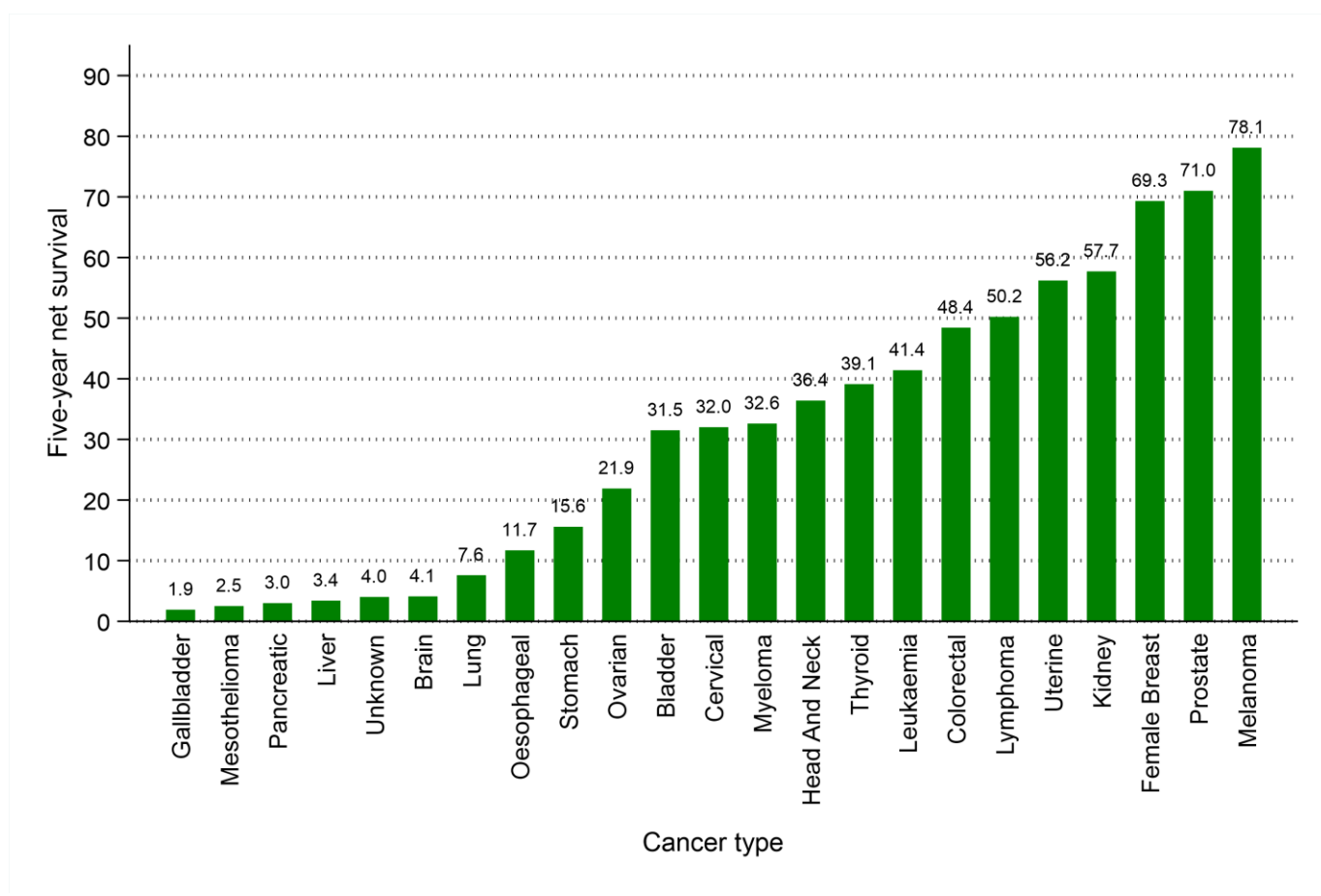
Figure 10: Trends in five-year net survival from cancer among older people in 1997-2016



SURVIVAL BY CANCER TYPE

- Five-year survival (NS) for patients aged 75 and over diagnosed in 2012-2016 ranged from 78.1% for malignant melanoma to 1.9% for gallbladder cancer (including other biliary).
- In particular five-year survival (NS) for the most common cancer types among those aged 75 and over was:
 - 71.0% for prostate cancer,
 - 69.3% for female breast cancer,
 - 48.4% for colorectal cancer and
 - 7.6% for lung cancer (including trachea).

Figure 11: Five-year net survival from cancer among older people diagnosed in 2012-2016 by cancer type



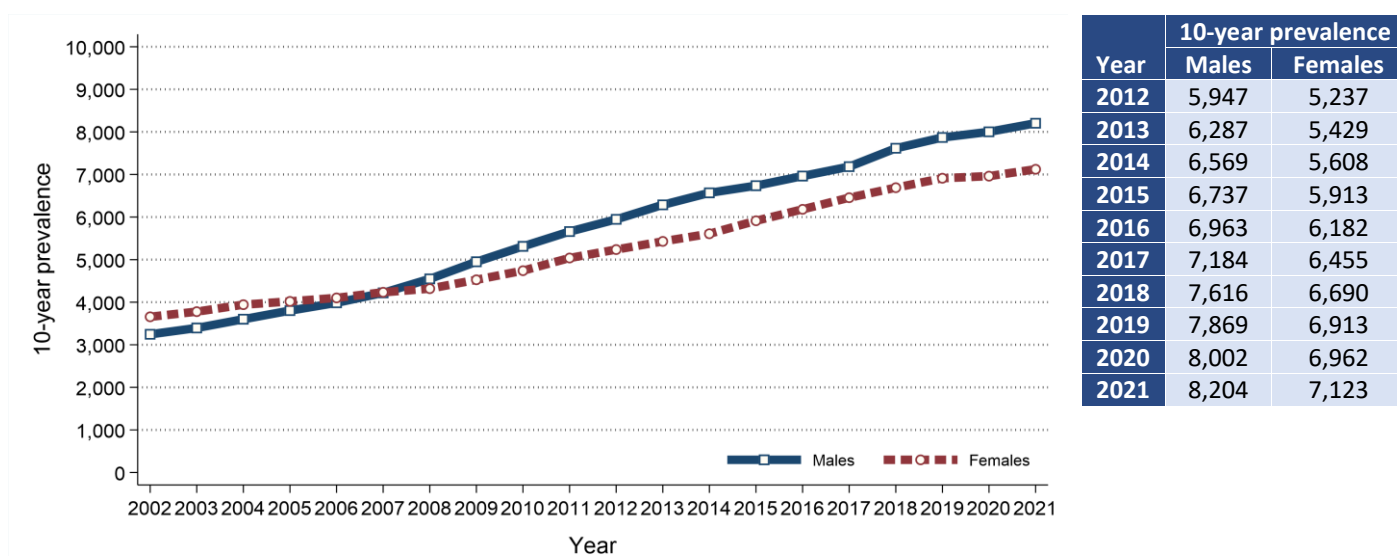
PREVALENCE

- At the end of 2021, there were 24,648 people aged 75 and over (Males: 12,441; Females: 12,207) living with cancer who had been diagnosed with the disease during 1997-2021.
- Of these 10.1% had been diagnosed in the previous year (one-year prevalence) and 62.2% in the previous 10 years (ten-year prevalence).
- At the end of 2021 the most prevalent cancer types among males aged 75 and over were prostate cancer (6,401 survivors), colorectal cancer (2,400 survivors) and malignant melanoma (643 survivors). Among females aged 75 and over they were breast cancer (5,160 survivors), colorectal cancer (2,113 survivors) and uterine cancer (1,114 survivors).

PREVALENCE TRENDS

- 10-year prevalence of cancer among males aged 75 and over increased between 2016 and 2021 by 17.8% from 6,963 survivors to 8,204 survivors.
- 10-year prevalence of cancer among females aged 75 and over increased between 2016 and 2021 by 15.2% from 6,182 survivors to 7,123 survivors.

Figure 12: Trends in 10-year prevalence of cancer among older people in 2002-2021

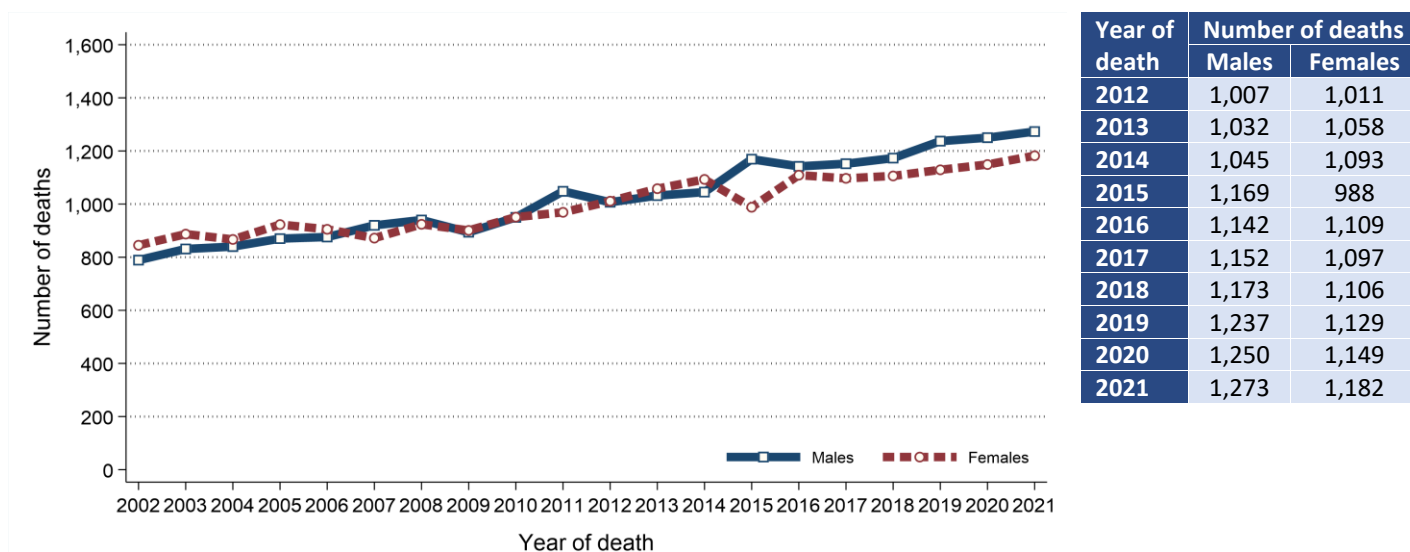


MORTALITY

- There were 11,748 deaths from cancer among older people (excluding non-melanoma skin cancer) during 2017-2021 in Northern Ireland. On average this was 2,350 deaths per year.
- During this period 48.2% of cancer deaths among those aged 75 and over were among women (Male deaths: 6,085, Female deaths: 5,663). On average there were 1,217 male and 1,133 female deaths from cancer among those aged 75 and over per year.
- The number of deaths from cancer among males aged 75 and over increased between 2012-2016 and 2017-2021 by 12.8% from 5,395 deaths (1,079 deaths per year) to 6,085 deaths (1,217 deaths per year).

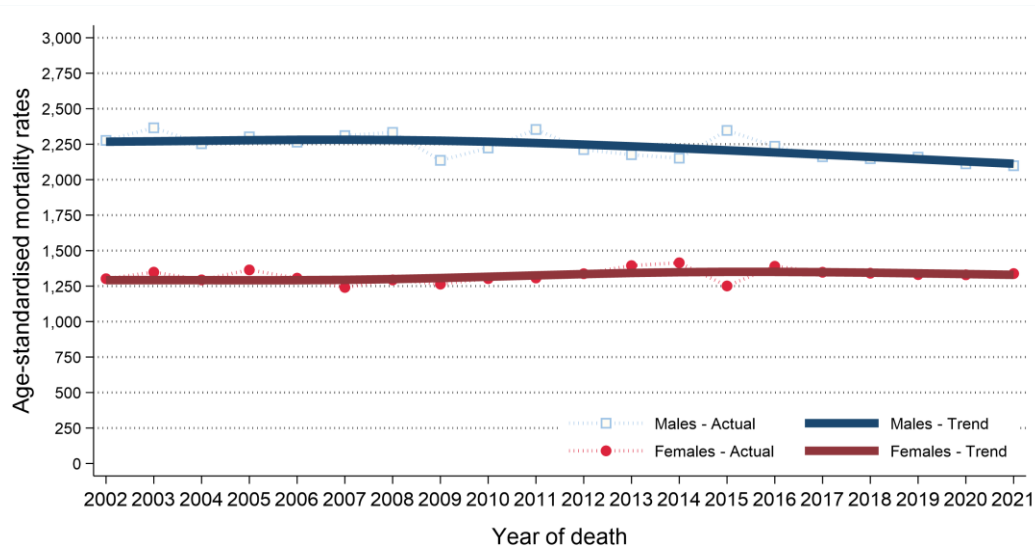
- The number of deaths from cancer among females aged 75 and over increased between 2012-2016 and 2017-2021 by 7.7% from 5,259 deaths (1,052 deaths per year) to 5,663 deaths (1,133 deaths per year).

Figure 13: Trends in the number of deaths from cancer among older people from 2002 to 2021



- Male age-standardised cancer mortality rates among those aged 75 and over decreased between 2012-2016 and 2017-2021 by 4.2% from 2,227.5 to 2,133.9 deaths per 100,000 males aged 75 and over. This change was not statistically significant.
- Female age-standardised cancer mortality rates among those aged 75 and over decreased between 2012-2016 and 2017-2021 by 1.5% from 1,357.7 to 1,337.4 deaths per 100,000 females aged 75 and over. This change was not statistically significant.

Figure 14: Trends in mortality rates of cancer among older people 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 death among males aged 75 and over were lung cancer (including trachea) (21.2%), prostate cancer (17.3%) and colorectal cancer (10.9%). Among females aged 75 and over they were lung cancer (including trachea) (19.8%), breast cancer (13.2%) and colorectal cancer (11.2%).

Table 6: Number of deaths from cancer among older people in 2017-2021 by cancer type

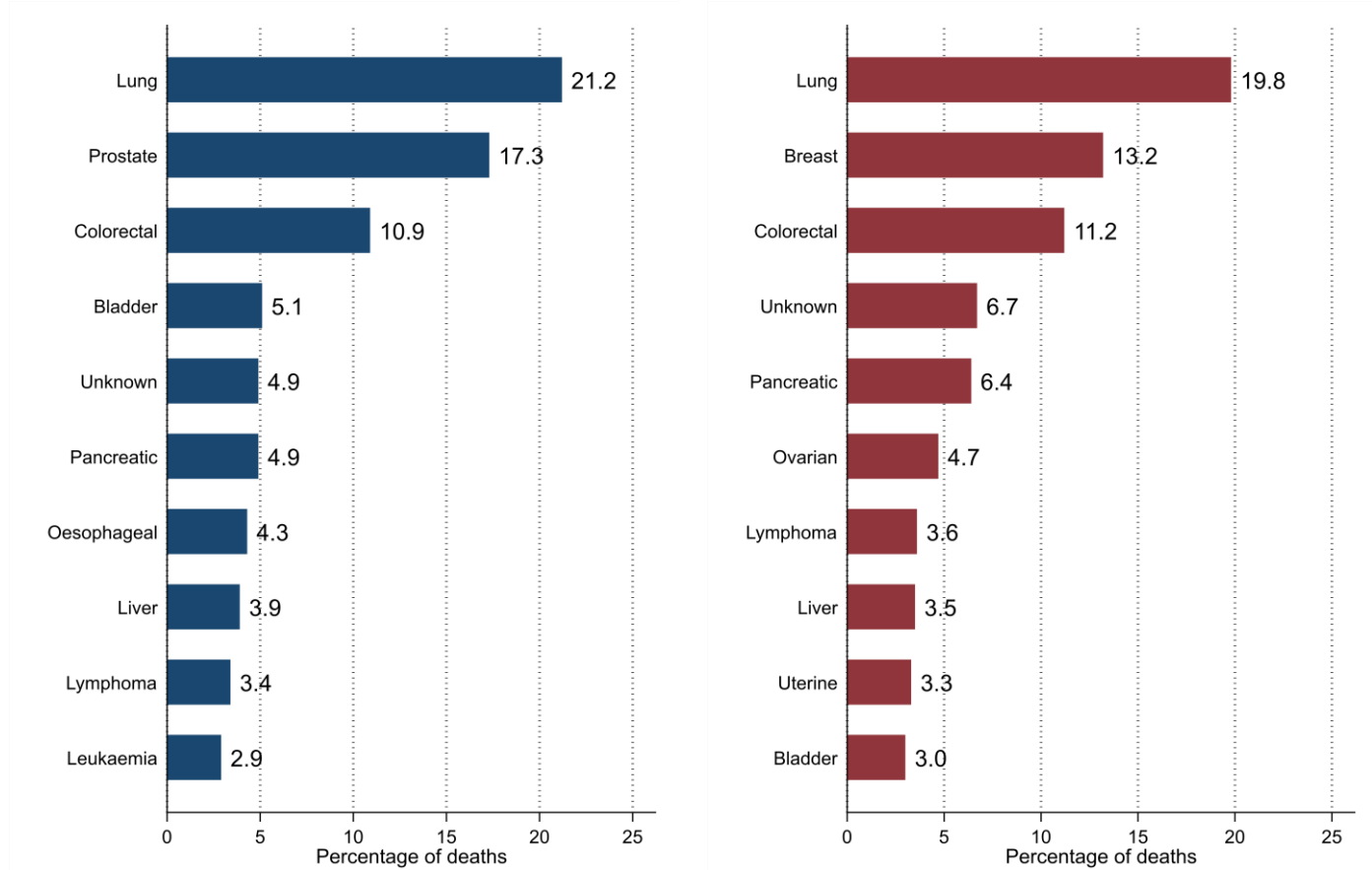
Common cancer types	All persons		Male		Female	
	Total deaths in period	Average deaths per year	Total deaths in period	Average deaths per year	Total deaths in period	Average deaths per year
Cancer among older people	11,748	2,350	6,085	1,217	5,663	1,133
Bladder cancer	482	96	313	63	169	34
Brain cancer (including central nervous system)	219	44	123	25	96	19
Breast cancer	760	152	10	2	750	150
Cervical cancer	27	5	.	.	27	5
Colorectal cancer	1,295	259	662	132	633	127
Head and neck cancer	252	50	173	35	79	16
Kidney cancer	279	56	179	36	100	20
Leukaemia	315	63	176	35	139	28
Liver cancer	437	87	239	48	198	40
Lung cancer (including trachea)	2,413	483	1,292	258	1,121	224
Lymphoma	408	82	204	41	204	41
Malignant melanoma	153	31	83	17	70	14
Multiple myeloma	252	50	132	26	120	24
Oesophageal cancer	412	82	260	52	152	30
Ovarian cancer (including fallopian tube)	265	53	.	.	265	53
Pancreatic cancer	659	132	296	59	363	73
Prostate cancer	1,051	210	1,051	210	.	.
Stomach cancer	306	61	166	33	140	28
Thyroid cancer	33	7	18	4	15	3
Unknown primary cancer	681	136	299	60	382	76
Uterine cancer	188	38	.	.	188	38

Note: Totals include other less common cancer types not listed in the table

Figure 15: Proportion of deaths from cancer among older people 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 among older people 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 among older people 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.