Stomach cancer

1993-2022

(ICD10 codes: C16)
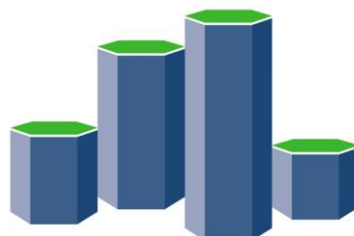
Northern Ireland Cancer Registry, 2024

An official statistics publication

ABOUT THIS REPORT

Contents

This report includes information on incidence of stomach cancer as recorded by the Northern Ireland Cancer Registry (NICR). Incidence data is available annually from 1993 to 2022, 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. Stomach cancer: 1993-2022. 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.
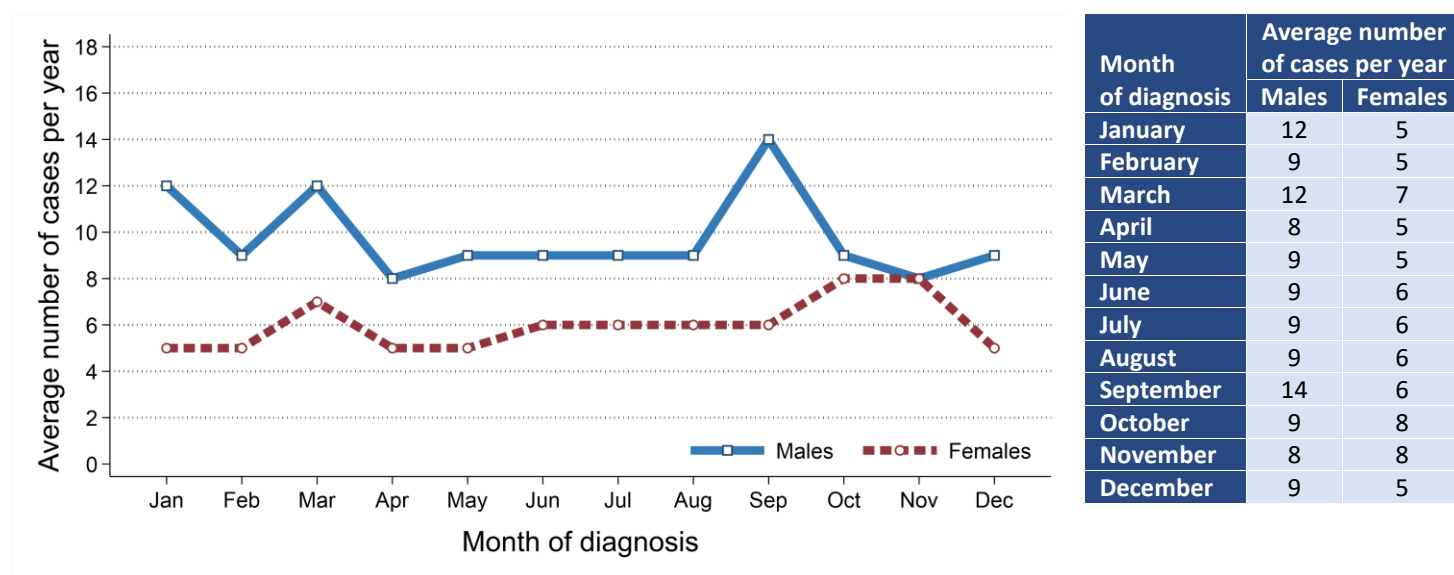
NICR is funded by the Public Health Agency and is based in Queen's University, Belfast.
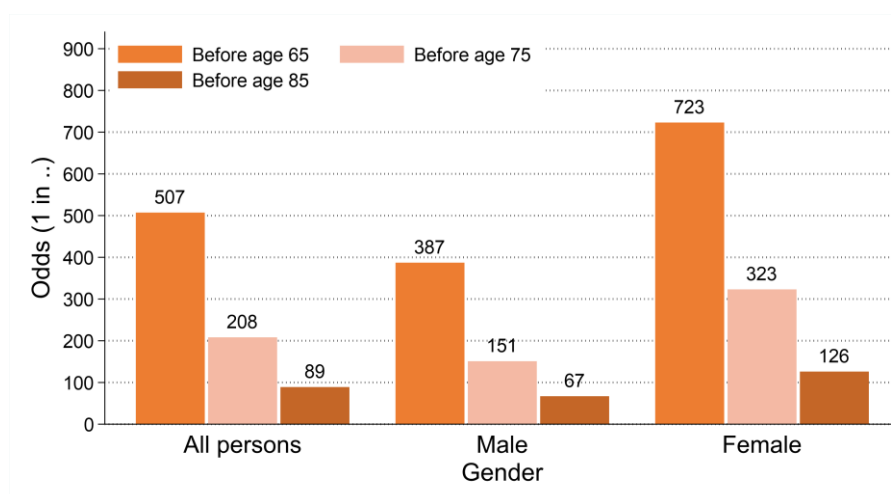
INCIDENCE

- There were 942 cases of stomach cancer diagnosed during 2018-2022 in Northern Ireland. On average this was 188 cases per year.
- During this period 37.9% of stomach cancer cases were among women (Male cases: 585, Female cases: 357). On average there were 117 male and 71 female cases of stomach cancer per year.
- The most common diagnosis month during 2018-2022 was September among males with 14 cases per year and November and October among females with 8 cases per year.

Figure 1: Average number of cases of stomach cancer per year in 2018-2022 by month of diagnosis

Month of diagnosis	Average number of cases per year	
	Males	Females
January	12	5
February	9	5
March	12	7
April	8	5
May	9	5
June	9	6
July	9	6
August	9	6
September	14	6
October	9	8
November	8	8
December	9	5

- The stomach cancer incidence rates for each gender were 12.5 cases per 100,000 males and 7.4 cases per 100,000 females.
- The odds of developing stomach cancer before age 85 was 1 in 67 for men and 1 in 126 for women.

Figure 2: Odds of developing stomach cancer in 2018-2022

INCIDENCE BY AGE

- The median age of patients diagnosed with stomach cancer during 2018-2022 was 74 years (Males: 73, Females: 76).
- The risk of developing stomach cancer varied by age, with 44.8% of men and 54.3% of women diagnosed with stomach cancer aged 75 and over at diagnosis.
- In contrast, 10.8% of patients diagnosed with stomach cancer were aged 0 to 54 at diagnosis.

Figure 3: Average number of cases of stomach cancer diagnosed per year in 2018-2022 by age at diagnosis
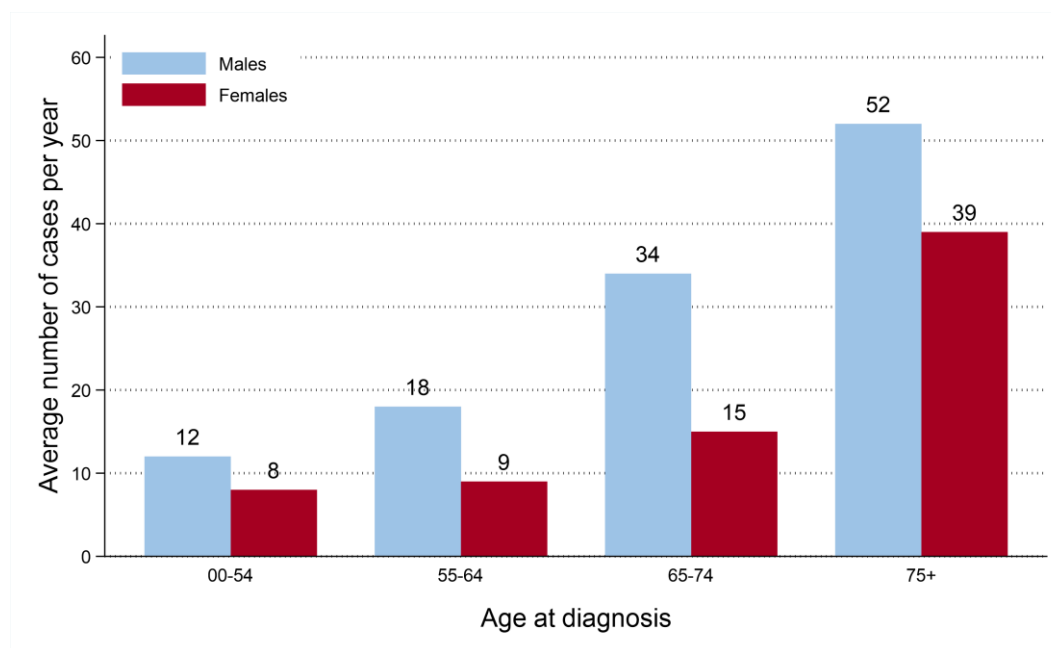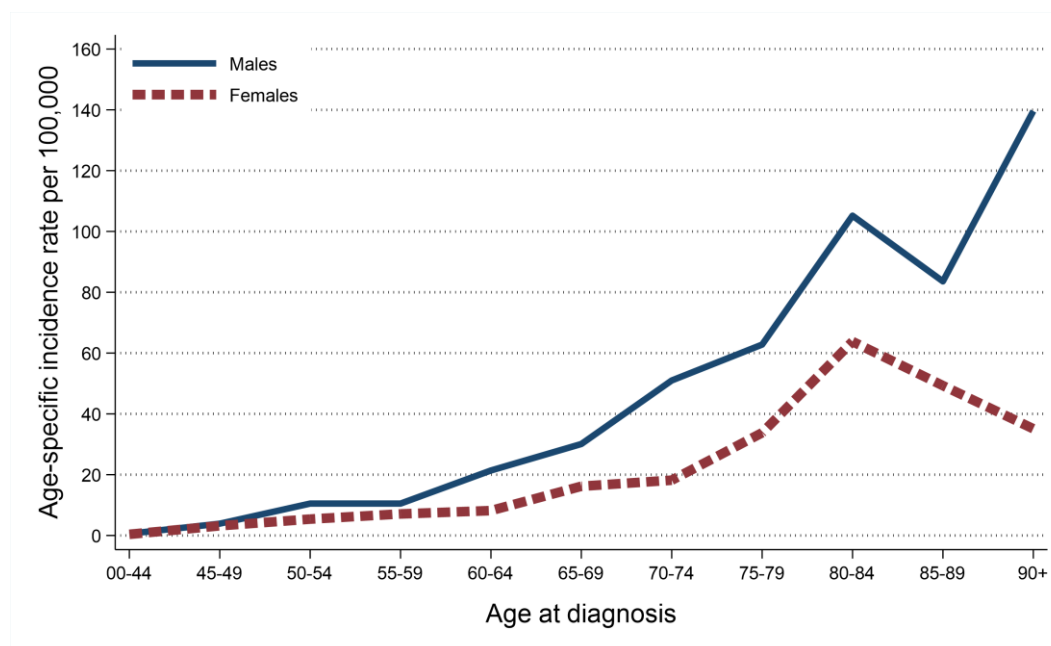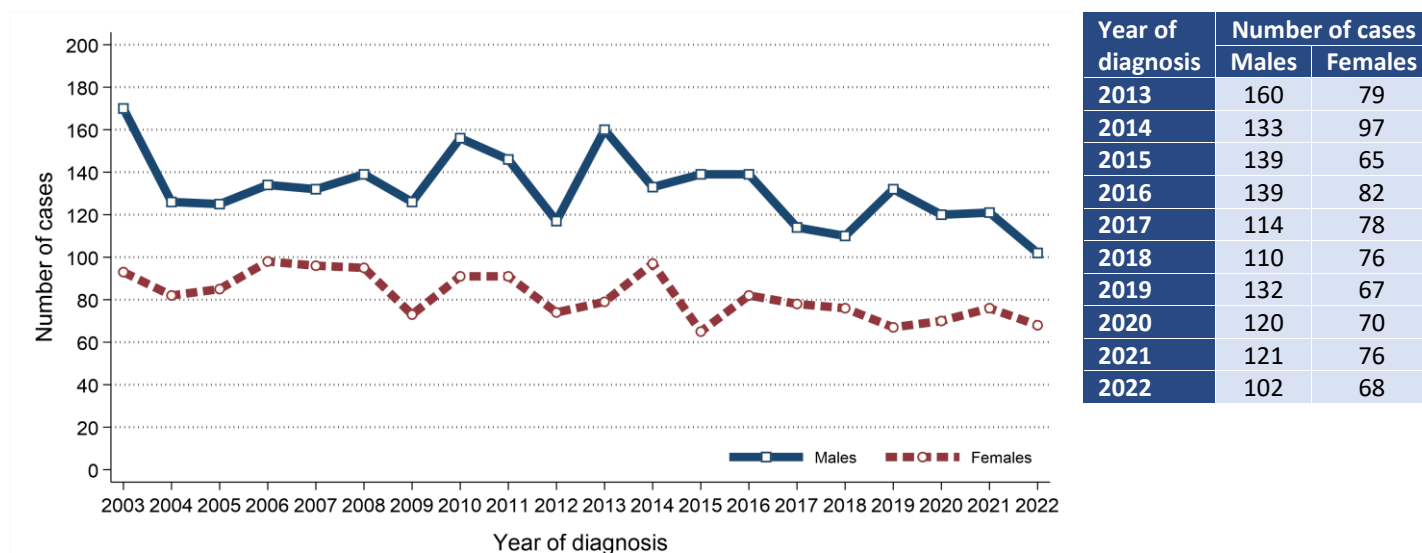

*Figure 4: Age-specific incidence rates of stomach cancer in 2018-2022*

INCIDENCE TRENDS

- The number of cases of stomach cancer among males decreased between 2013-2017 and 2018-2022 by 14.6% from 685 cases (137 cases per year) to 585 cases (117 cases per year).
- The number of cases of stomach cancer among females decreased between 2013-2017 and 2018-2022 by 11.0% from 401 cases (80 cases per year) to 357 cases (71 cases per year).

Figure 5: Trends in number of cases of stomach cancer diagnosed from 2003 to 2022

Year of diagnosis	Number of cases	
	Males	Females
2013	160	79
2014	133	97
2015	139	65
2016	139	82
2017	114	78
2018	110	76
2019	132	67
2020	120	70
2021	121	76
2022	102	68

- Male age-standardised stomach cancer incidence rates decreased between 2013-2017 and 2018-2022 by 24.3% from 20.2 to 15.3 cases per 100,000 males. This change was statistically significant.
- Female age-standardised stomach cancer incidence rates decreased between 2013-2017 and 2018-2022 by 18.1% from 9.4 to 7.7 cases per 100,000 females. This change was statistically significant.

Figure 6: Trends in incidence rates of stomach cancer from 2003 to 2022
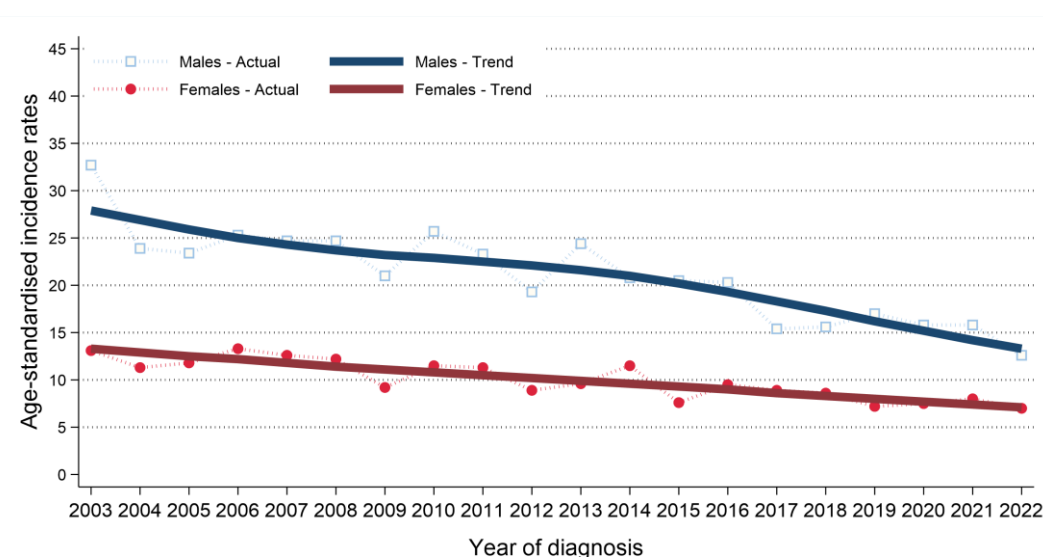
Age-standardised incidence rates illustrate the change in the number of cases within a population of a fixed size and age structure (2013 European Standard).

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 HISTOLOGICAL TYPE

- During 2018-2022 92.8% of stomach cancer cases had a histological type specified.

- Of the 68 cases with an unspecified type 95.6% were not microscopically verified.

- The most common stomach cancer types among males were adenocarcinoma (83.9%) and another specified type (10.3%). Among females they were adenocarcinoma (75.6%) and another specified type (14.8%).

Table 1: Number of cases of stomach cancer diagnosed in 2018-2022 by histological type

Histological 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 types	**942**	**188**	**585**	**117**	**357**	**71**
	.	.	.	.	.	.
Adenocarcinoma	761	152	491	98	270	54
Other specified type	113	23	60	12	53	11
Unspecified	68	14	34	7	34	7

Figure 7: Proportion of cases of stomach cancer in 2018-2022 by histological type

MALE
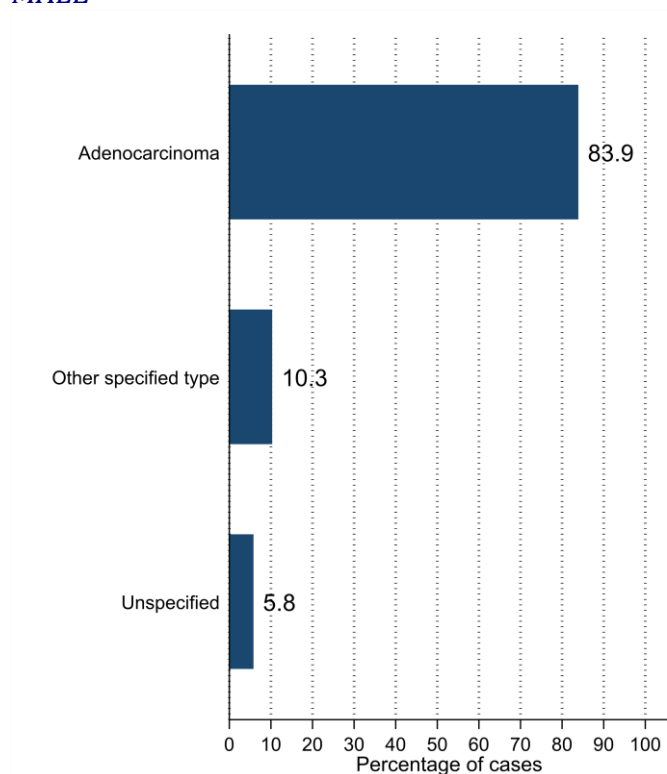
FEMALE

INCIDENCE BY STAGE AT DIAGNOSIS

- During 2018-2022 80.7% of stomach cancer cases had a stage assigned.

- 10.1% of stomach cancer cases were diagnosed at Stage I. (12.5% of staged cases)

- 47.8% of stomach cancer cases were diagnosed at Stage IV. (59.2% of staged cases)

Table 2: Number of cases of stomach cancer diagnosed in 2018-2022 by stage at diagnosis

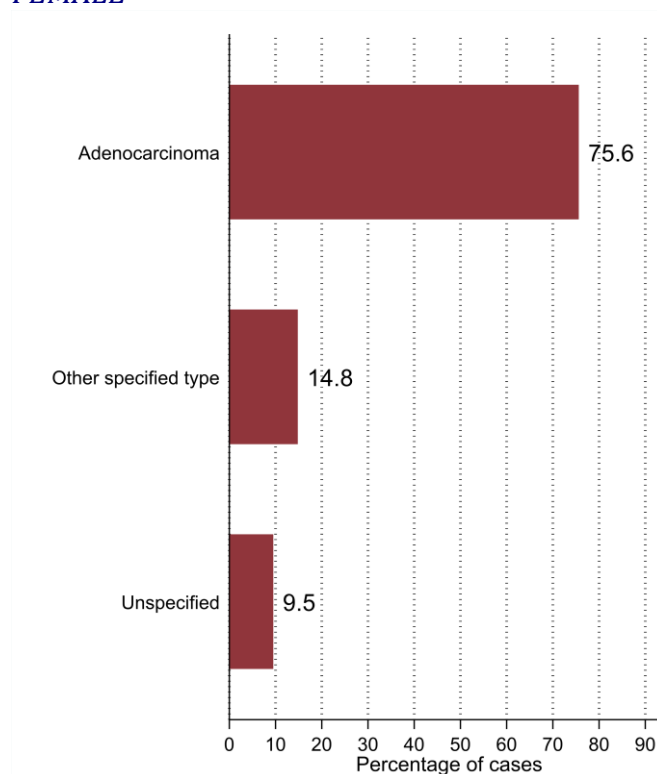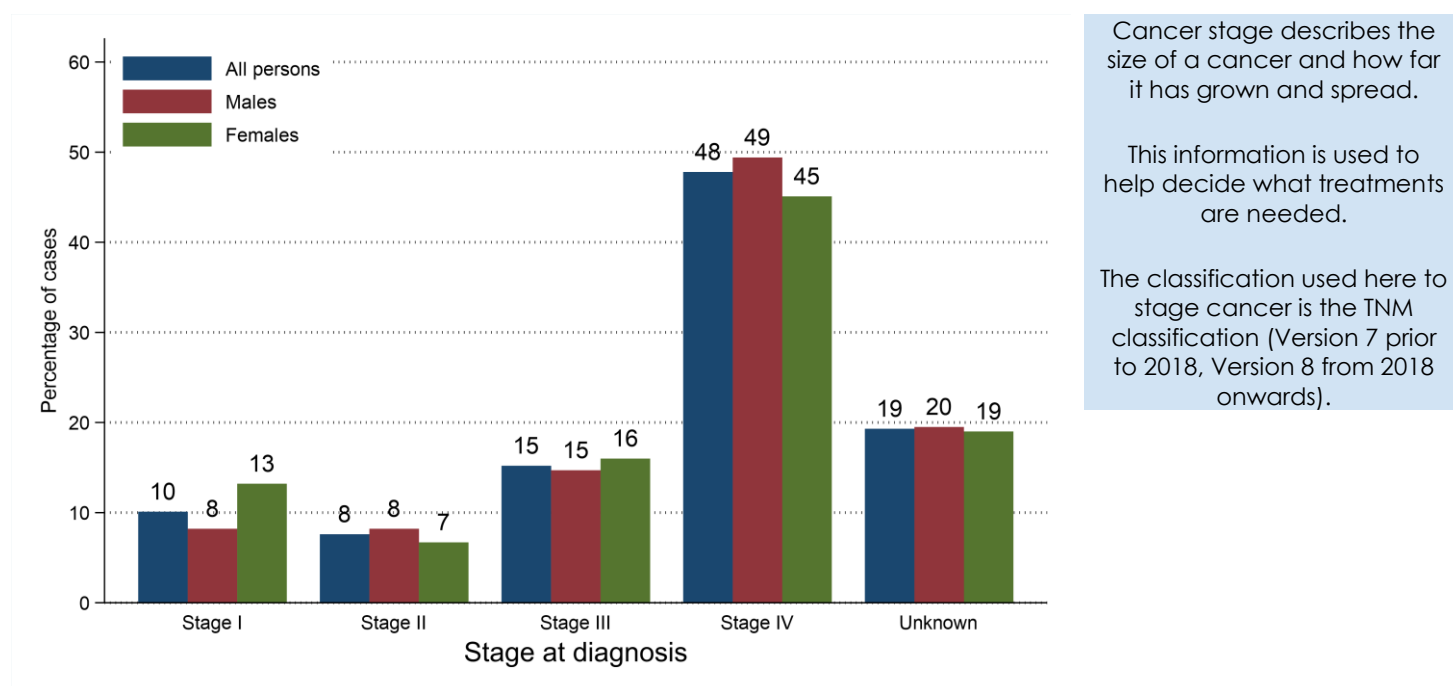| Stage at diagnosis	All persons		Male		Female	
	Total cases in period	Average cases per year	Total cases in period	Average cases per year	Total cases in period	Average cases per year
All stages	**942**	**188**	**585**	**117**	**357**	**71**
	.	.	.	.	.	.
Stage I	95	19	48	10	47	9
Stage II	72	14	48	10	24	5
Stage III	143	29	86	17	57	11
Stage IV	450	90	289	58	161	32
Unknown	182	36	114	23	68	14

Figure 8: Proportion of cases of stomach cancer diagnosed in 2018-2022 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).
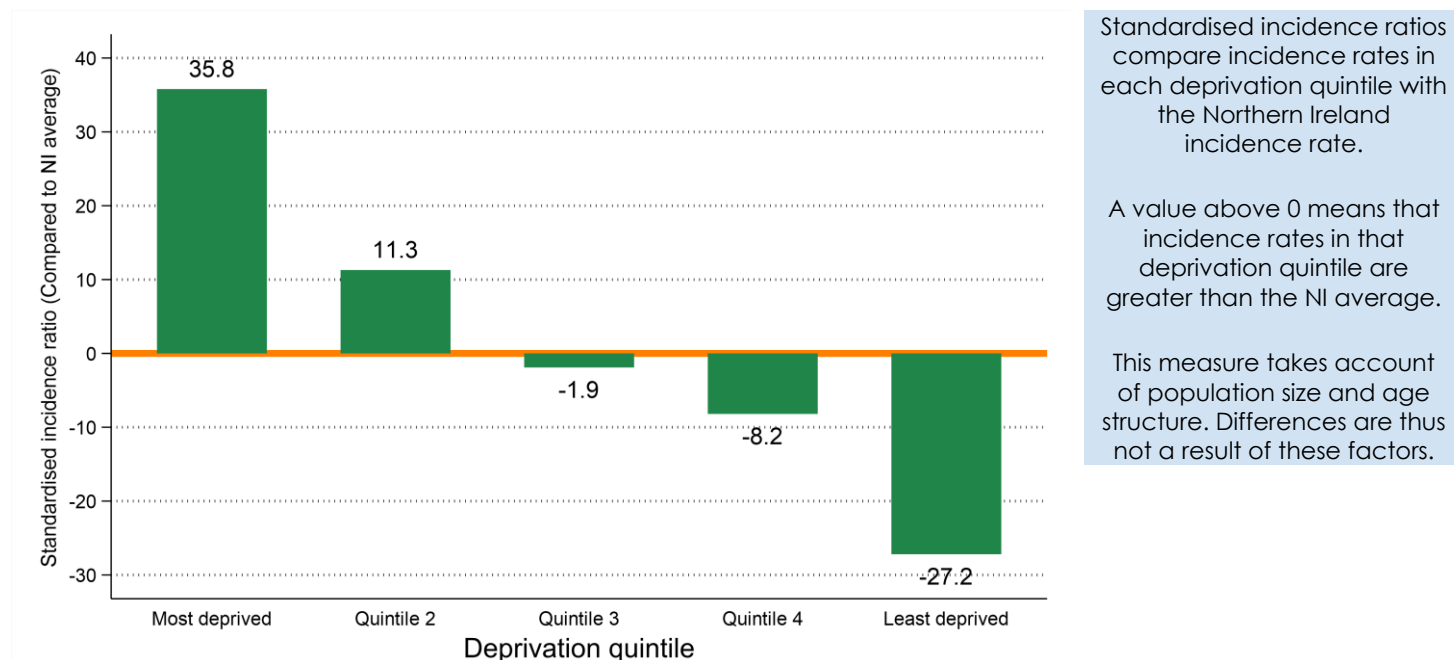
INCIDENCE BY DEPRIVATION

- The number of cases of stomach cancer diagnosed during 2018-2022 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 35.8% higher than the NI average.
  - in the least socio-economically deprived areas were 27.2% lower than the NI average.

Table 3: Number of cases of stomach cancer diagnosed in 2018-2022 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	**942**	**188**	**585**	**117**	**357**	**71**
	.	.	.	.	.	.
Most deprived	206	41	127	25	79	16
Quintile 2	209	42	135	27	74	15
Quintile 3	195	39	117	23	78	16
Quintile 4	184	37	106	21	78	16
Least deprived	148	30	100	20	48	10
Unknown	0	0	0	0	0	0

Figure 9: Standardised incidence ratio comparing deprivation quintile to Northern Ireland for stomach cancer diagnosed in 2018-2022

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 HEALTH AND SOCIAL CARE TRUST

- The number of cases of stomach cancer diagnosed during 2018-2022 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 23.3% higher than the NI average.
  - in Northern HSCT were 14.4% lower than 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 stomach cancer diagnosed in 2018-2022 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	**942**	**188**	**585**	**117**	**357**	**71**
	.	.	.	.	.	.
Belfast HSCT	208	42	134	27	74	15
Northern HSCT	215	43	137	27	78	16
South Eastern HSCT	178	36	106	21	72	14
Southern HSCT	176	35	107	21	69	14
Western HSCT	165	33	101	20	64	13
Unknown	0	0	0	0	0	0

Figure 10: Standardised incidence ratio comparing Health and Social Care Trust to Northern Ireland for stomach cancer diagnosed in 2018-2022
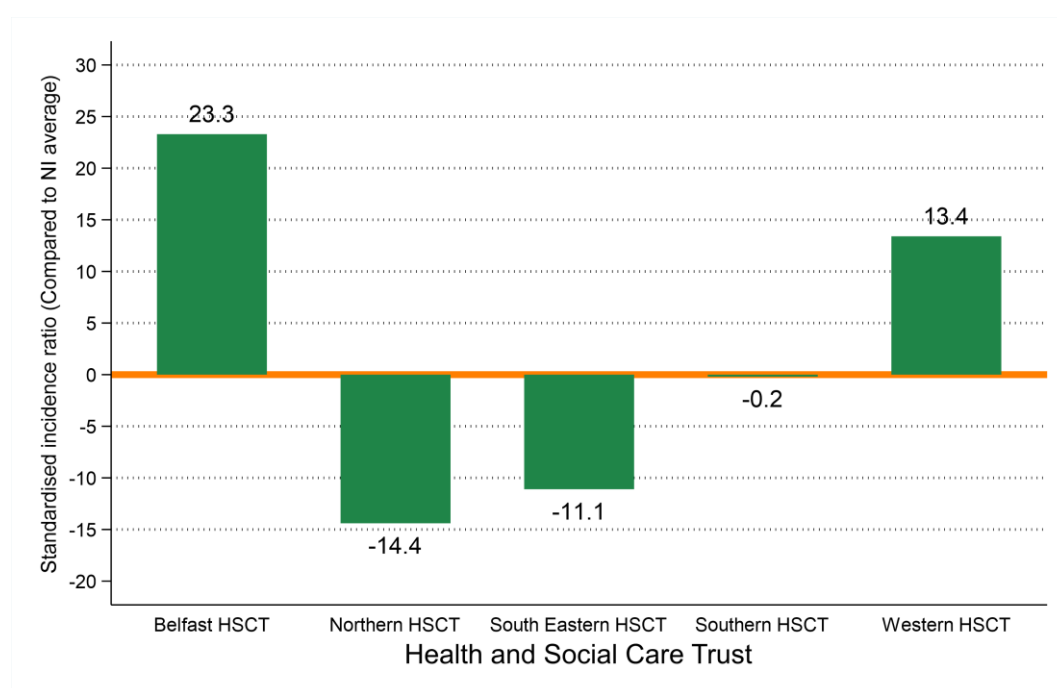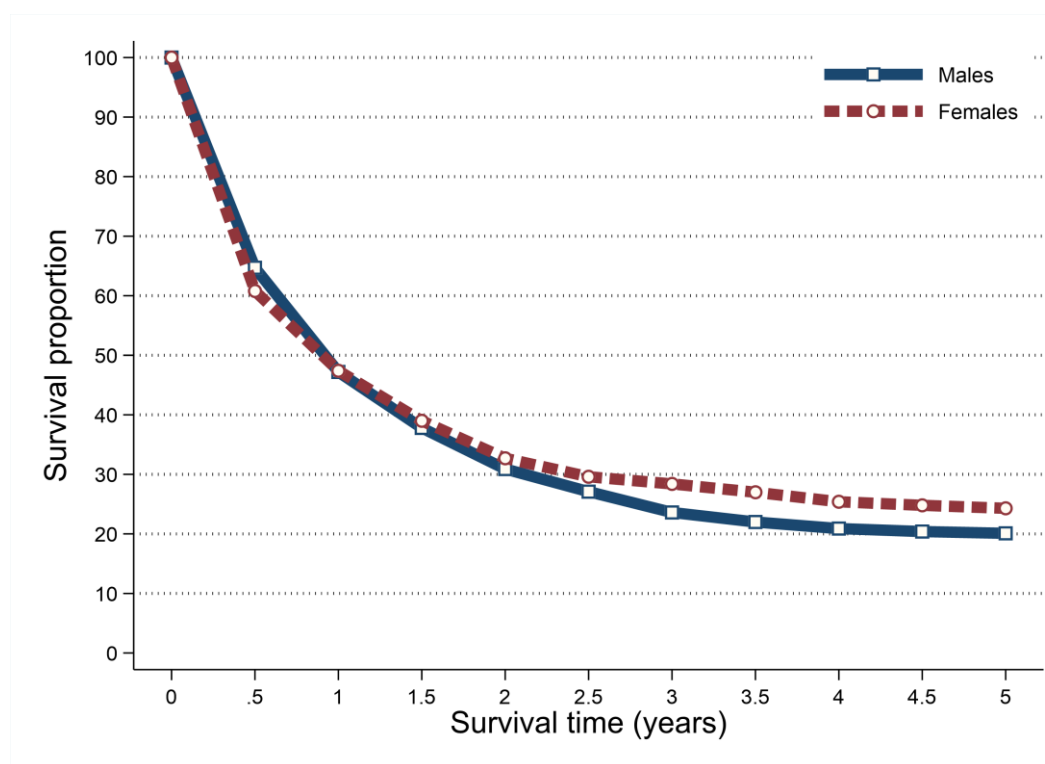
SURVIVAL

- 44.0% of patients were alive one year and 17.3% were alive five years from a stomach cancer diagnosis in 2013-2017. (observed survival)
- Age-standardised net survival (ASNS), which removes the effect of deaths from causes unrelated to cancer, was 47.3% one year and 21.6% five years from a stomach cancer diagnosis in 2013-2017.
- Five-year survival (ASNS) for stomach cancer patients diagnosed in 2013-2017 was 20.1% among men and 24.3% among women.

Table 5: Survival from stomach cancer for patients diagnosed in 2013-2017

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	60.0%	63.2%	62.5%	64.7%	55.8%	60.8%
One year	44.0%	47.3%	45.1%	47.2%	41.9%	47.4%
Two years	28.4%	31.5%	28.8%	30.9%	27.8%	32.7%
Five years	17.3%	21.6%	16.5%	20.1%	18.8%	24.3%

Figure 11: Age-standardised net survival from stomach cancer for patients diagnosed in 2013-2017

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.
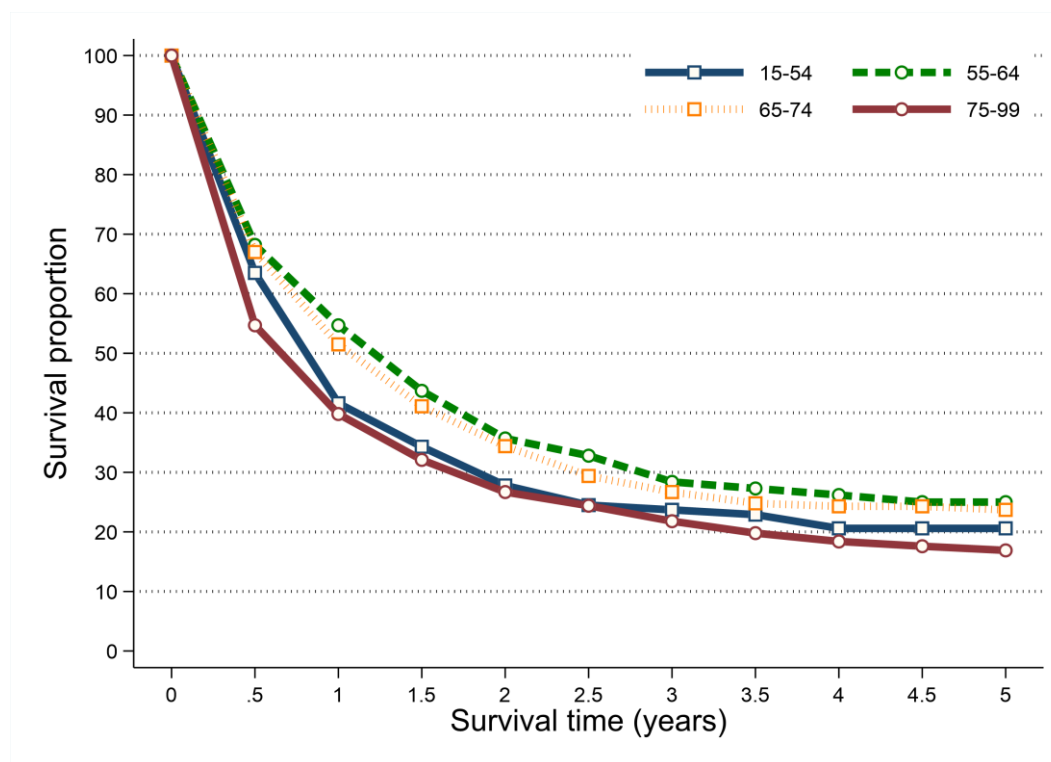
SURVIVAL BY AGE

- Survival from stomach cancer among patients diagnosed during 2013-2017 was related to age with better five-year survival among younger age groups.
- Five-year net survival ranged from 25.0% among patients aged 55 to 64 at diagnosis to 16.9% among those aged 75 to 99.

Table 6: Net survival from stomach cancer for patients diagnosed in 2013-2017 by age at diagnosis

Age group	All persons	
	One-year	Five-years
15 to 54	41.6%	20.6%
55 to 64	54.7%	25.0%
65 to 74	51.5%	23.7%
75 to 99	39.8%	16.9%

Figure 12: Net survival from stomach cancer for patients diagnosed in 2013-2017 by age at diagnosis
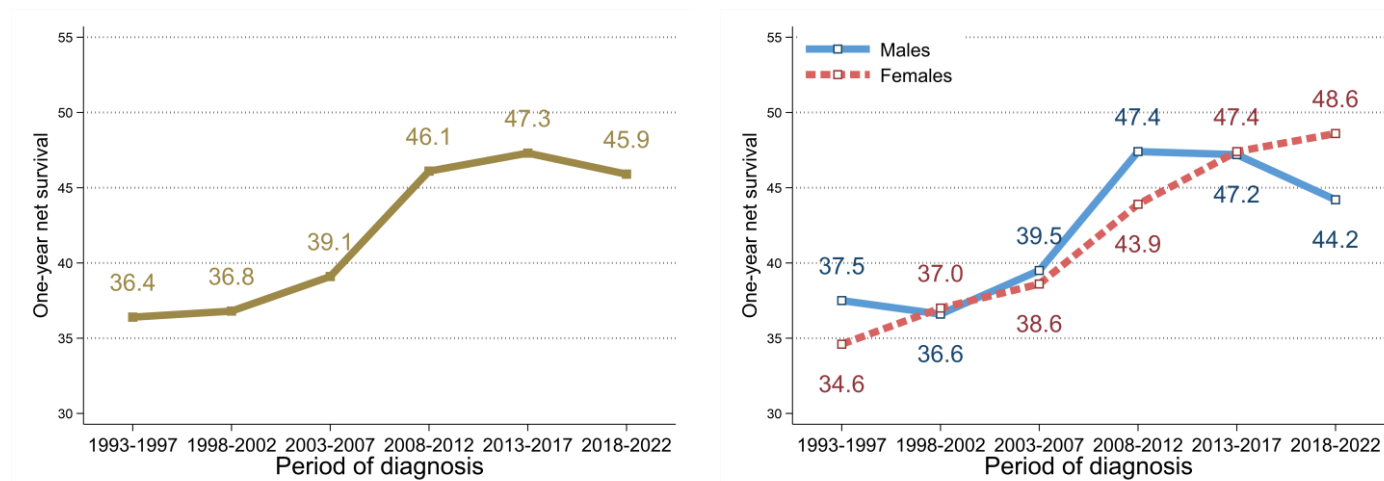
SURVIVAL TRENDS

ONE-YEAR NET SURVIVAL

- Between 2013-2017 and 2018-2022 there was no significant change in one-year survival (ASNS) from stomach cancer.
- Compared to 1993-1997 one-year survival (ASNS) from stomach cancer in 2018-2022 increased significantly from 36.4% to 45.9%. This increase was significant for females (34.6% to 48.6%) but not males.

Figure 13: Trends in one-year age-standardised net survival from stomach cancer in 1993-2022

FIVE-YEAR NET SURVIVAL

- Between 2008-2012 and 2013-2017 there was no significant change in five-year survival (ASNS) from stomach cancer.
- Compared to 1993-1997 five-year survival (ASNS) from stomach cancer in 2013-2017 increased significantly from 15.1% to 21.6%. This change was not significant for either males or females when considered separately.

*Figure 14: Trends in five-year age-standardised net survival from stomach cancer in 1993-2017*
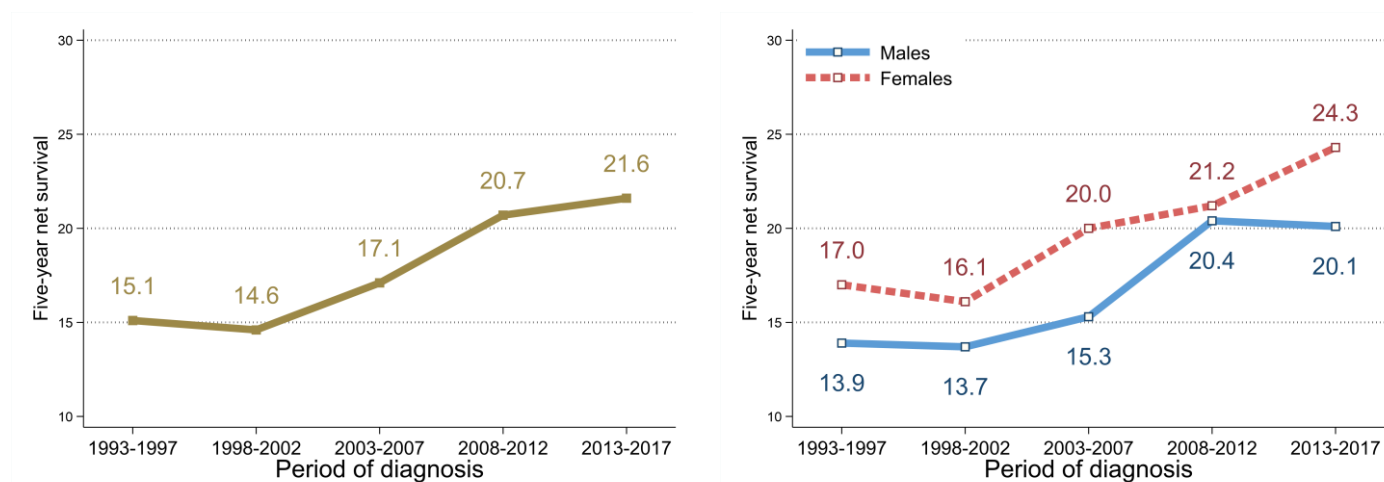
SURVIVAL BY HISTOLOGICAL TYPE

- Five-year survival (ASNS) for patients diagnosed in 2013-2017 ranged from 54.0% for those with another specified type to 5.9% for those with an unspecified histological type.

Table 7: Age-standardised net survival from stomach cancer for patients diagnosed in 2013-2017 by histological type

Histological type	All persons	
	One-year	Five-years
Adenocarcinoma	46.8%	18.3%
Other specified type	65.3%	54.0%
Unspecified	14.4%	5.9%

Figure 15: Five-year age-standardised net survival from stomach cancer for patients diagnosed in 2013-2017 by histological type
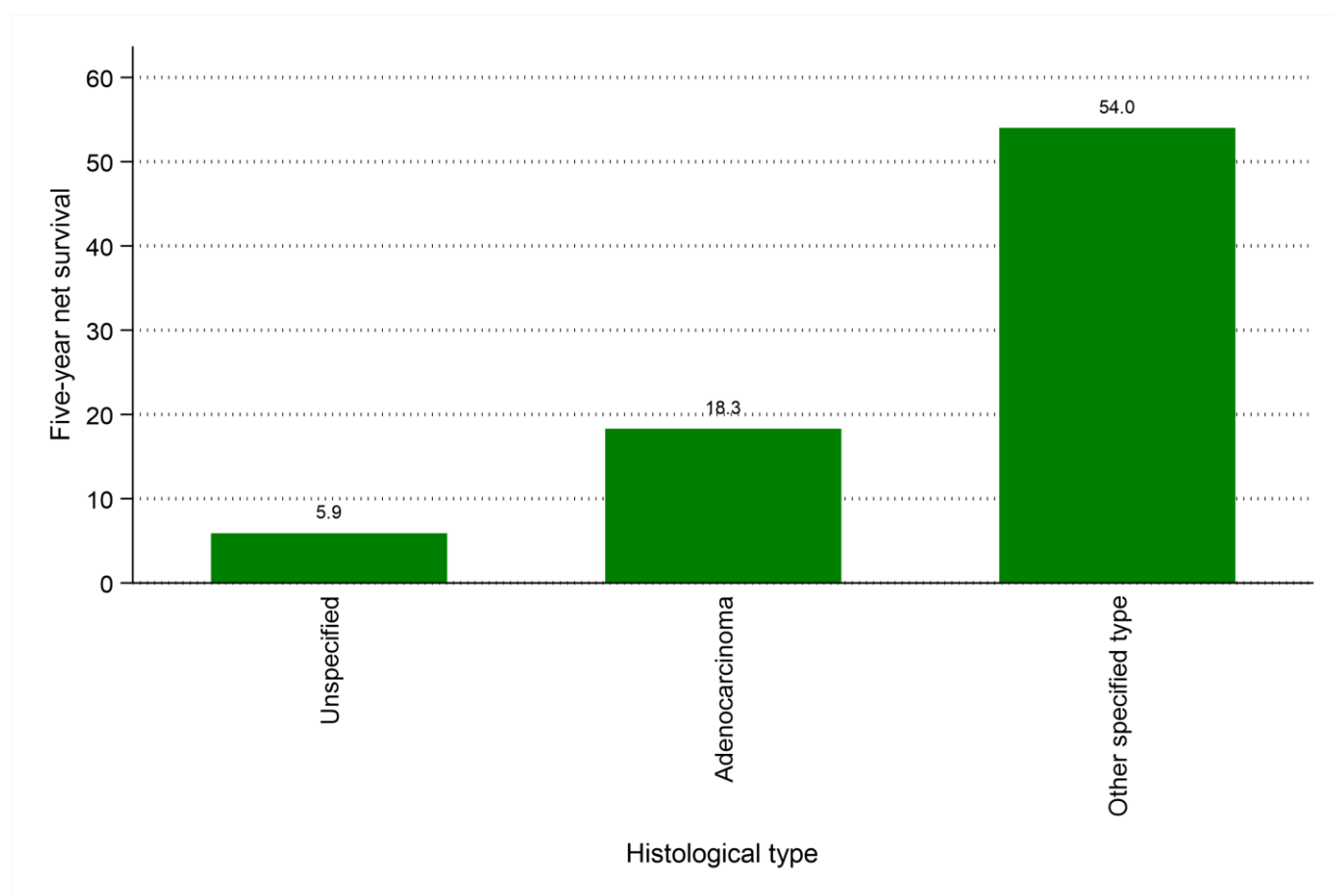
SURVIVAL BY STAGE

- Survival from stomach cancer among patients diagnosed during 2013-2017 was strongly related to stage with better five-year survival among those diagnosed at earlier stages.
- Five-year survival (ASNS) ranged from 80.4% among patients diagnosed at Stage I to 0.7% among those diagnosed at Stage IV.

Table 8: Age-standardised net survival from stomach cancer for patients diagnosed in 2013-2017 by stage at diagnosis

Stage at diagnosis	All persons	
	One-year	Five-years
Stage I	93.1%	80.4%
Stage II	79.2%	55.8%
Stage III	72.3%	23.4%
Stage IV	19.7%	0.7%
Unknown	58.0%	25.3%

Figure 16: Age-standardised net survival from stomach cancer for patients diagnosed in 2013-2017 by stage at diagnosis
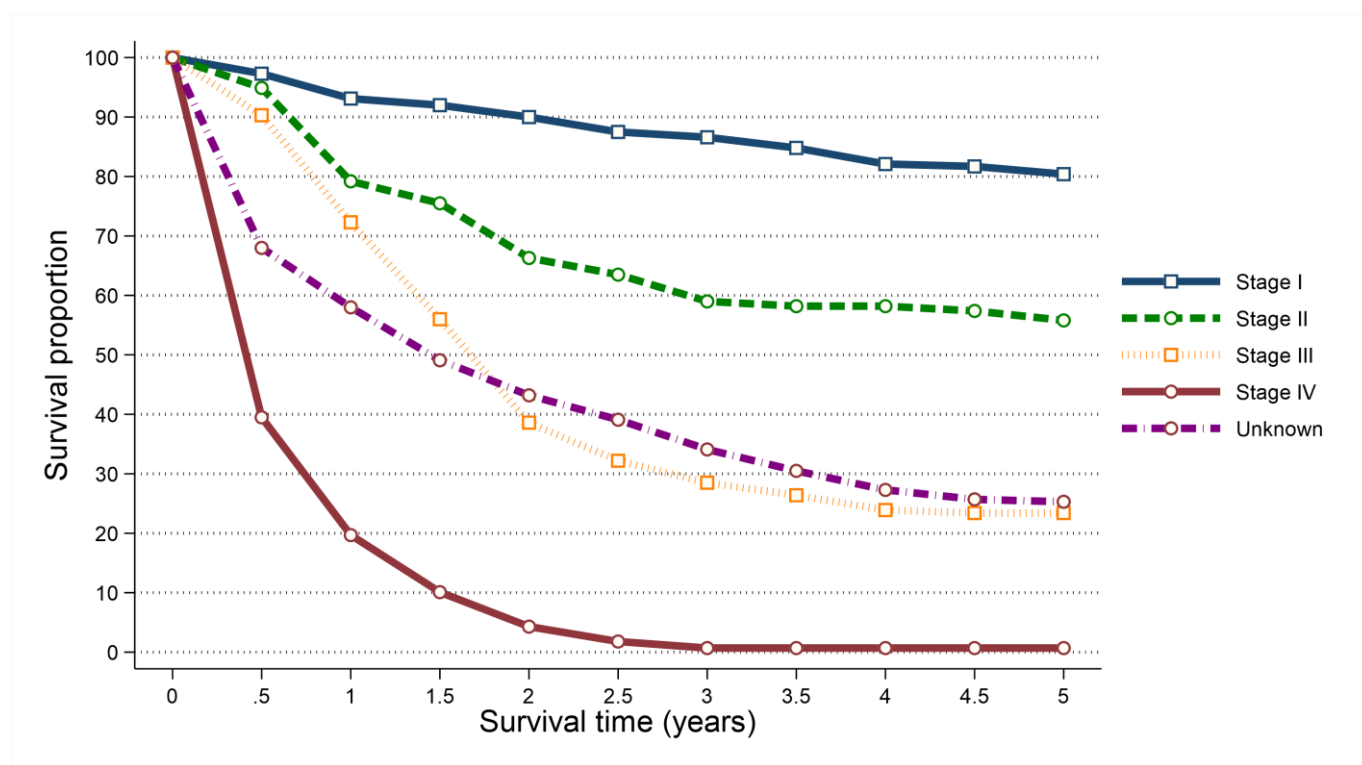
PREVALENCE

- At the end of 2022, there were 611 people (Males: 356; Females: 255) living with stomach cancer who had been diagnosed with the disease during 1998-2022.
- Of these 15.7% had been diagnosed in the previous year (one-year prevalence) and 69.1% in the previous 10 years (ten-year prevalence).
- 56.3% of stomach cancer survivors were aged 75 and over at the end of 2022.
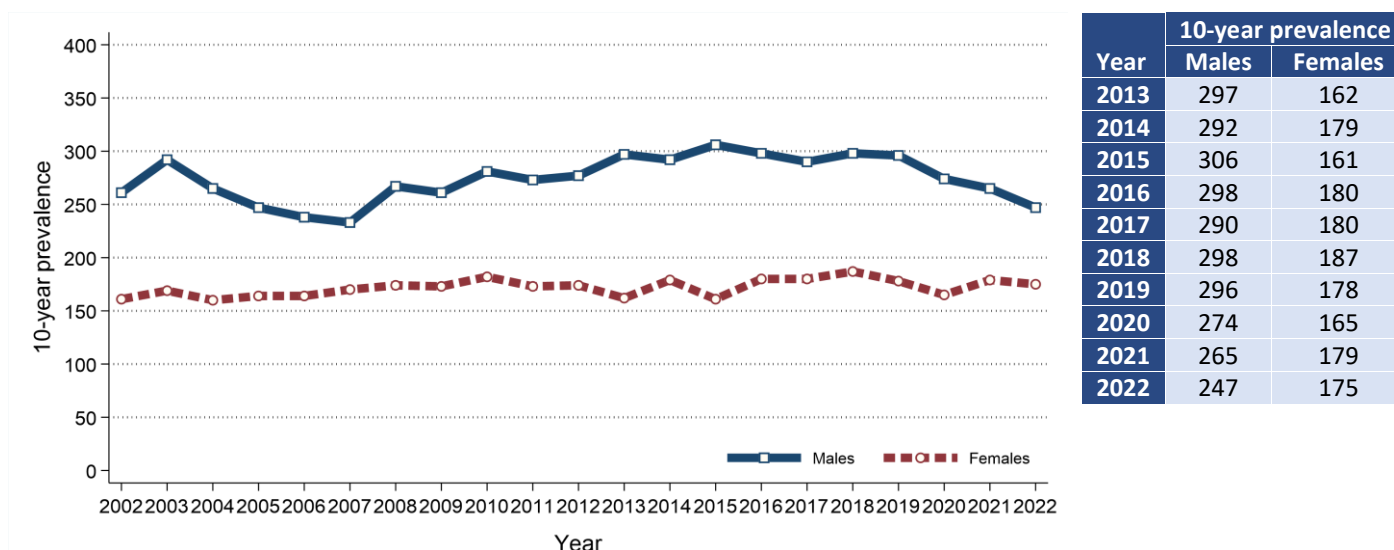
Table 9: 25-year prevalence of stomach cancer by age at end of 2022

Gender	Age at end of 2022	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	611	96	179	147	189
	0 to 74	267	44	94	66	63
	75 and over	344	52	85	81	126
Male	All ages	356	51	102	94	109
	0 to 74	146	23	50	40	33
	75 and over	210	28	52	54	76
Female	All ages	255	45	77	53	80
	0 to 74	121	21	44	26	30
	75 and over	134	24	33	27	50

PREVALENCE TRENDS

- 10-year prevalence of stomach cancer among males decreased between 2017 and 2022 by 14.8% from 290 survivors to 247 survivors.
- 10-year prevalence of stomach cancer among females decreased between 2017 and 2022 by 2.8% from 180 survivors to 175 survivors.

Figure 17: Trends in 10-year prevalence of stomach cancer in 2002-2022

Year	10-year prevalence	
	Males	Females
2013	297	162
2014	292	179
2015	306	161
2016	298	180
2017	290	180
2018	298	187
2019	296	178
2020	274	165
2021	265	179
2022	247	175

MORTALITY

- There were 581 deaths from stomach cancer during 2018-2022 in Northern Ireland. On average this was 116 deaths per year.
- During this period 40.6% of stomach cancer deaths were among women (Male deaths: 345, Female deaths: 236). On average there were 69 male and 47 female deaths from stomach cancer per year.
- Stomach cancer deaths made up 2.9% of all male cancer deaths and 2.2% of all female cancer deaths.
- The median age of patients who died from stomach cancer during 2018-2022 was 76 years (Males: 75, Females: 77).
- The risk of dying from stomach cancer varied by age, with 51.0% of men and 57.2% of women who died from stomach cancer aged 75 and over at death.
- In contrast, 9.3% of patients who died from stomach cancer were aged 0 to 54 at death.

Figure 18: Average number of deaths from stomach cancer per year in 2018-2022 by age at death
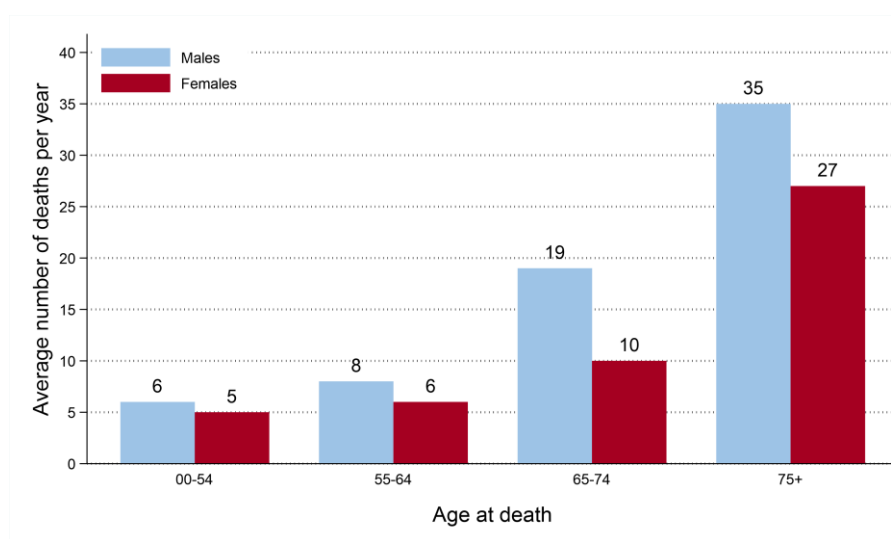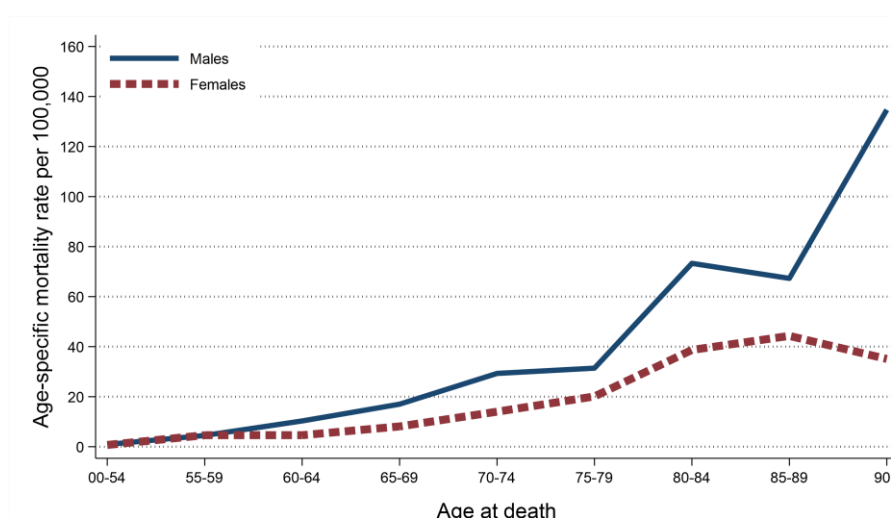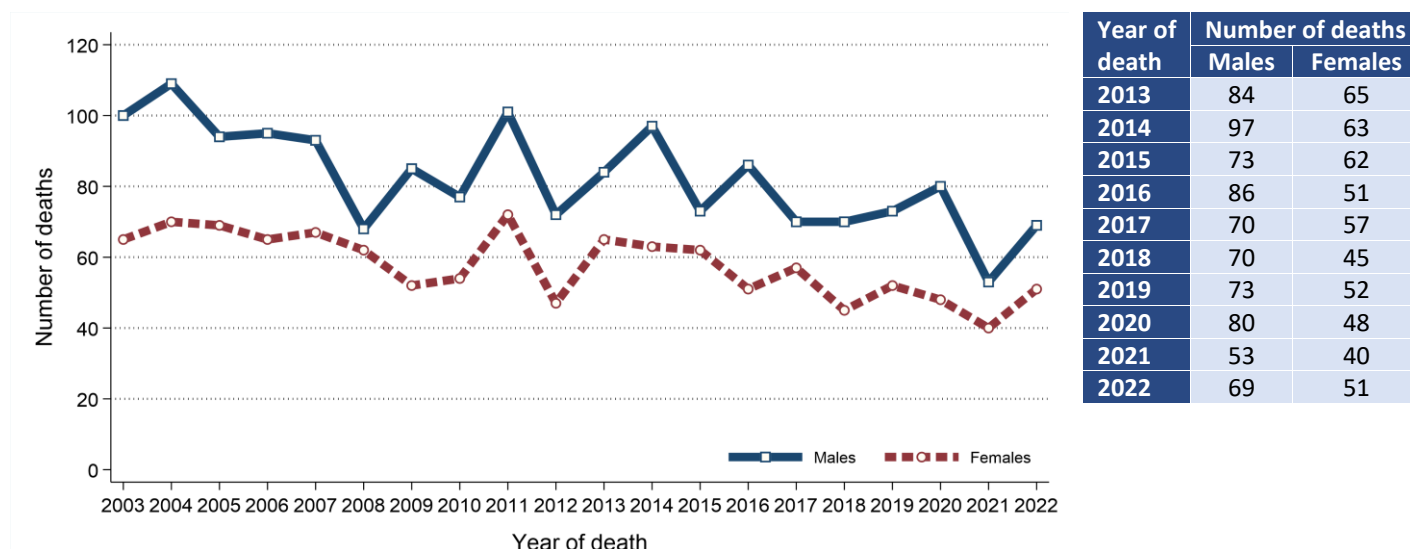

*Figure 19: Age-specific mortality rates of stomach cancer in 2018-2022*

MORTALITY TRENDS

- The number of deaths from stomach cancer among males decreased between 2013-2017 and 2018-2022 by 15.9% from 410 deaths (82 deaths per year) to 345 deaths (69 deaths per year).
- The number of deaths from stomach cancer among females decreased between 2013-2017 and 2018-2022 by 20.8% from 298 deaths (60 deaths per year) to 236 deaths (47 deaths per year).

Figure 20: Trends in the number of deaths from stomach cancer from 2003 to 2022

Year of death	Number of deaths	
	Males	Females
2013	84	65
2014	97	63
2015	73	62
2016	86	51
2017	70	57
2018	70	45
2019	73	52
2020	80	48
2021	53	40
2022	69	51

- Male age-standardised stomach cancer mortality rates decreased between 2013-2017 and 2018-2022 by 24.8% from 12.5 to 9.4 deaths per 100,000 males. This change was statistically significant.
- Female age-standardised stomach cancer mortality rates decreased between 2013-2017 and 2018-2022 by 26.5% from 6.8 to 5.0 deaths per 100,000 females. This change was statistically significant.

Figure 21: Trends in mortality rates of stomach cancer from 2003 to 2022
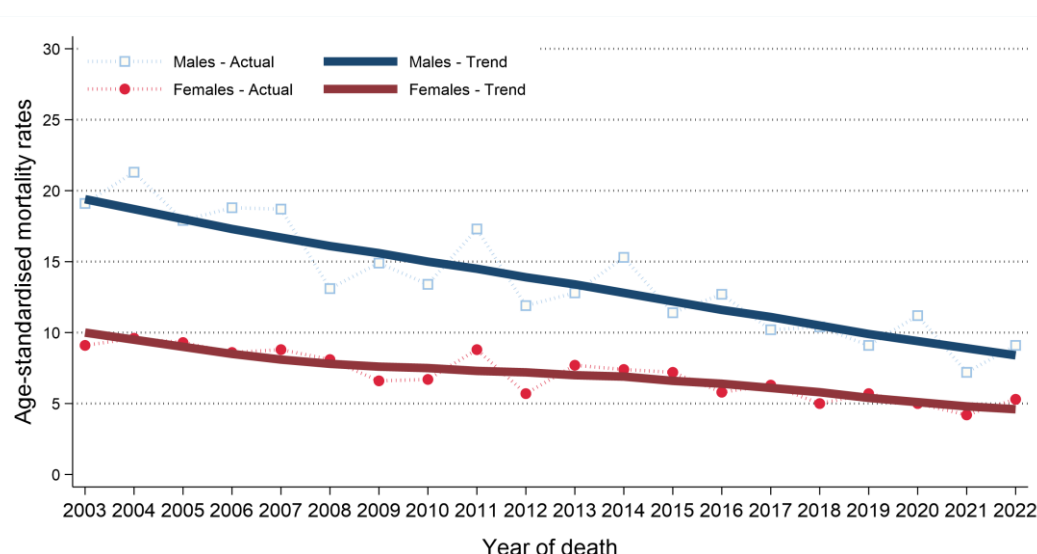
Age-standardised mortality rates illustrate the change in the number of deaths within a population of a fixed size and age structure (2013 European Standard).

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.

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 Jul 2024 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. stomach 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. stomach 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 2022 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.