
Malignant sarcoma

1993-2021

(Excluding non-melanoma skin cancer)

(ICD10 codes: Based upon ICD-O-3 morphology)



Northern Ireland Cancer Registry, 2024

An official statistics publication

ABOUT THIS REPORT

Contents

This report includes information on incidence of malignant sarcoma (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.

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. Malignant sarcoma: 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

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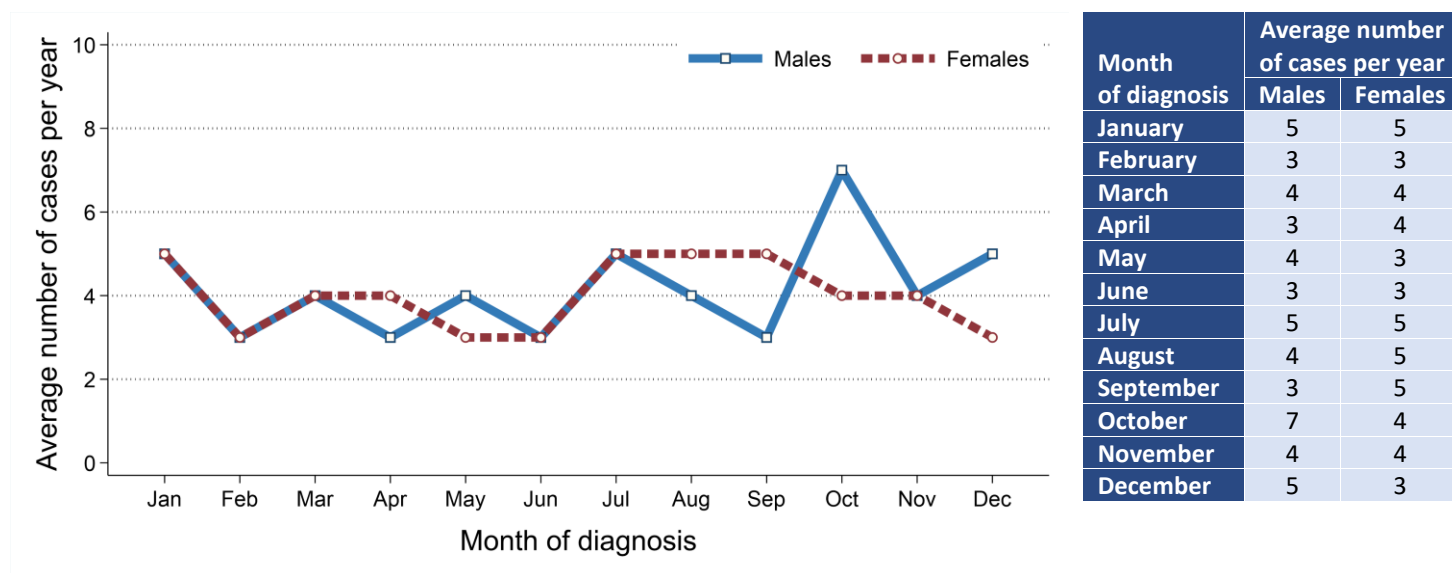
NICR is funded by the Public Health Agency and is based in Queen's University, Belfast.



INCIDENCE

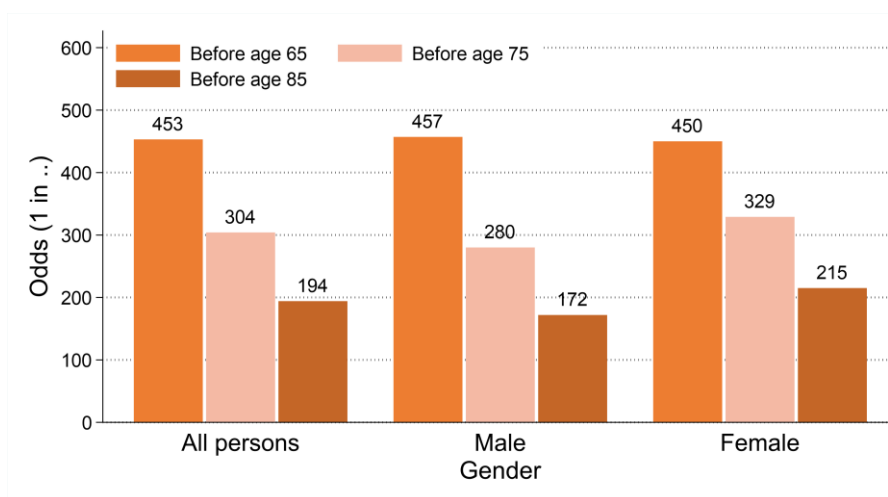
- There were 486 cases of malignant sarcoma (excluding non-melanoma skin cancer) diagnosed during 2017-2021 in Northern Ireland. On average this was 97 cases per year.
- During this period 48.4% of malignant sarcoma cases were among women (Male cases: 251, Female cases: 235). On average there were 50 male and 47 female cases of malignant sarcoma per year.
- The most common diagnosis month during 2017-2021 was October among males with 7 cases per year and January, July, August and September among females with 5 cases per year.

Figure 1: Average number of cases of malignant sarcoma per year in 2017-2021 by month of diagnosis



- Malignant sarcoma made up 1.0% of all male and 1.0% of all female cancer cases (excluding non-melanoma skin cancer).
- The malignant sarcoma incidence rates for each gender were 5.4 cases per 100,000 males and 4.9 cases per 100,000 females.
- The odds of developing malignant sarcoma before age 85 was 1 in 172 for men and 1 in 215 for women.

Figure 2: Odds of developing malignant sarcoma in 2017-2021



INCIDENCE BY AGE

- The median age of patients diagnosed with malignant sarcoma during 2017-2021 was 61 years (Males: 63, Females: 60).
- The risk of developing malignant sarcoma varied by age, with 25.5% of men and 26.8% of women diagnosed with malignant sarcoma aged 75 and over at diagnosis.
- In contrast, 38.7% of patients diagnosed with malignant sarcoma were aged 0 to 54 at diagnosis.

Figure 3: Average number of cases of malignant sarcoma diagnosed per year in 2017-2021 by age at diagnosis

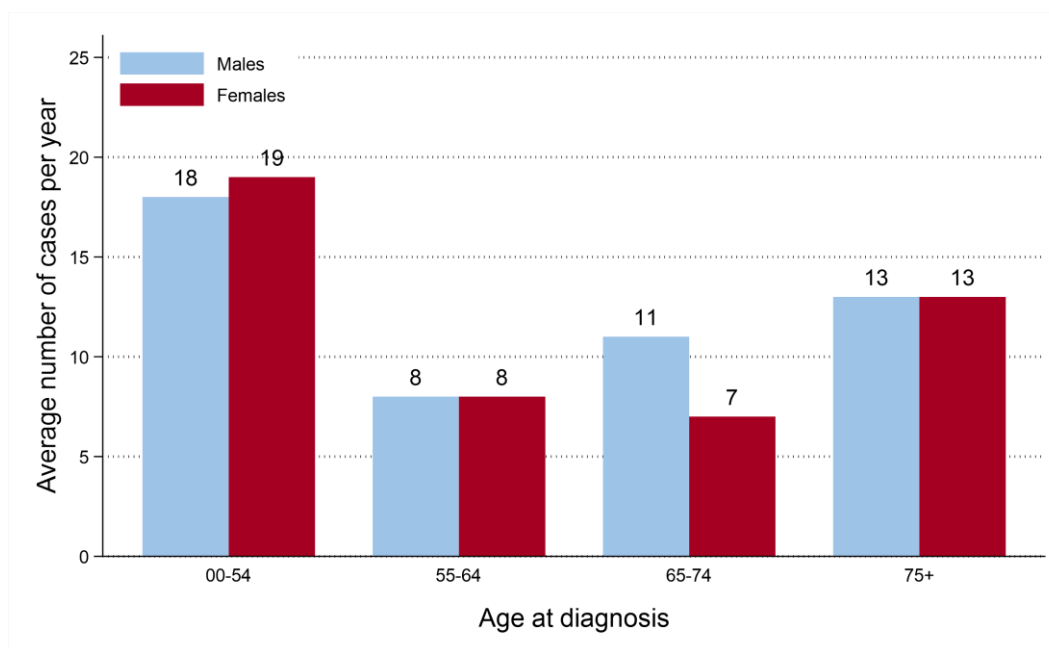
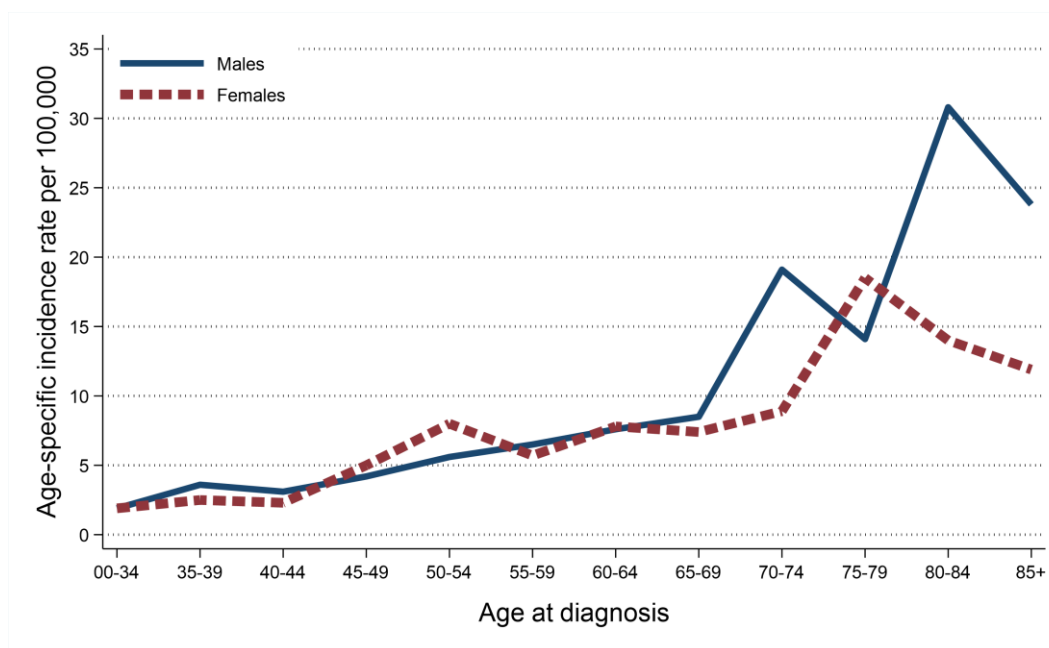


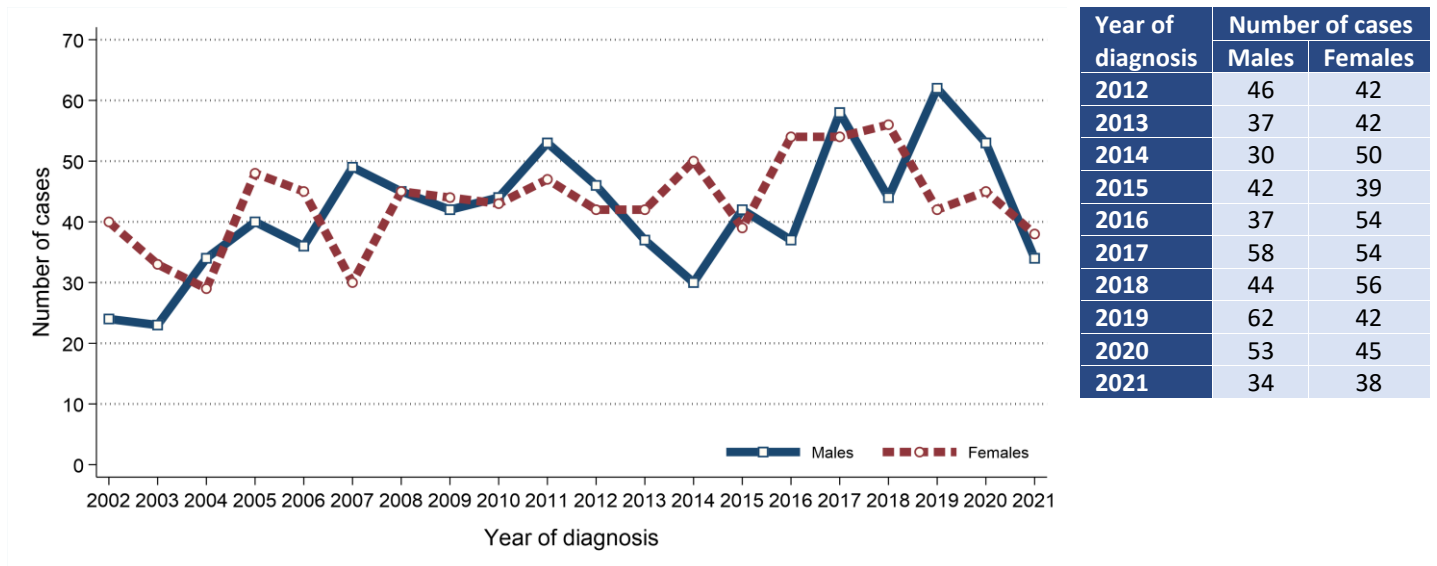
Figure 4: Age-specific incidence rates of malignant sarcoma in 2017-2021



INCIDENCE TRENDS

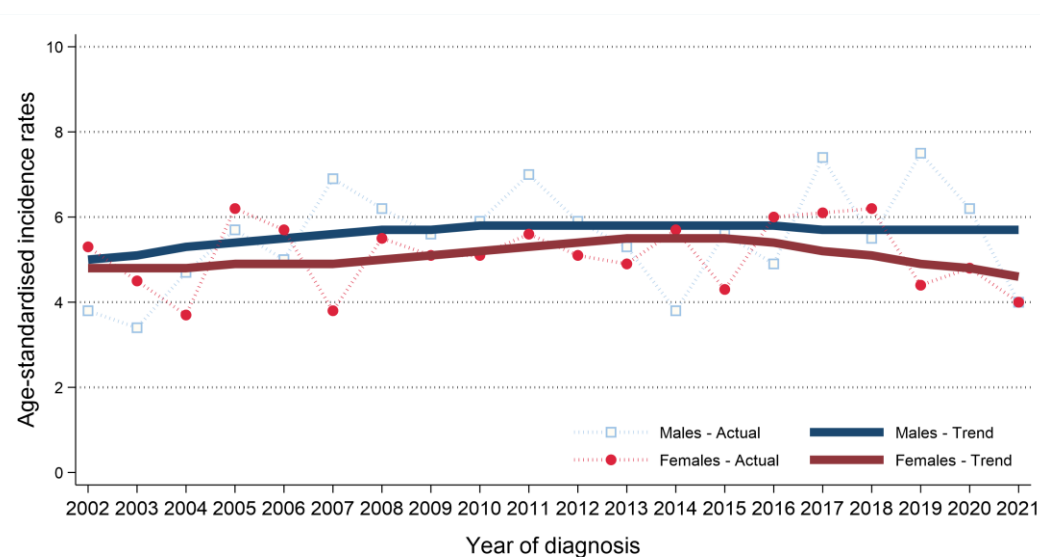
- The number of cases of malignant sarcoma among males increased between 2012-2016 and 2017-2021 by 30.7% from 192 cases (38 cases per year) to 251 cases (50 cases per year).
- The number of cases of malignant sarcoma among females increased between 2012-2016 and 2017-2021 by 3.5% from 227 cases (45 cases per year) to 235 cases (47 cases per year).

Figure 5: Trends in number of cases of malignant sarcoma diagnosed from 2002 to 2021



- Male age-standardised malignant sarcoma incidence rates increased between 2012-2016 and 2017-2021 by 19.6% from 5.1 to 6.1 cases per 100,000 males. This change was not statistically significant.
- Female age-standardised malignant sarcoma incidence rates decreased between 2012-2016 and 2017-2021 by 1.9% from 5.2 to 5.1 cases per 100,000 females. This change was not statistically significant.

Figure 6: Trends in incidence rates of malignant sarcoma 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).

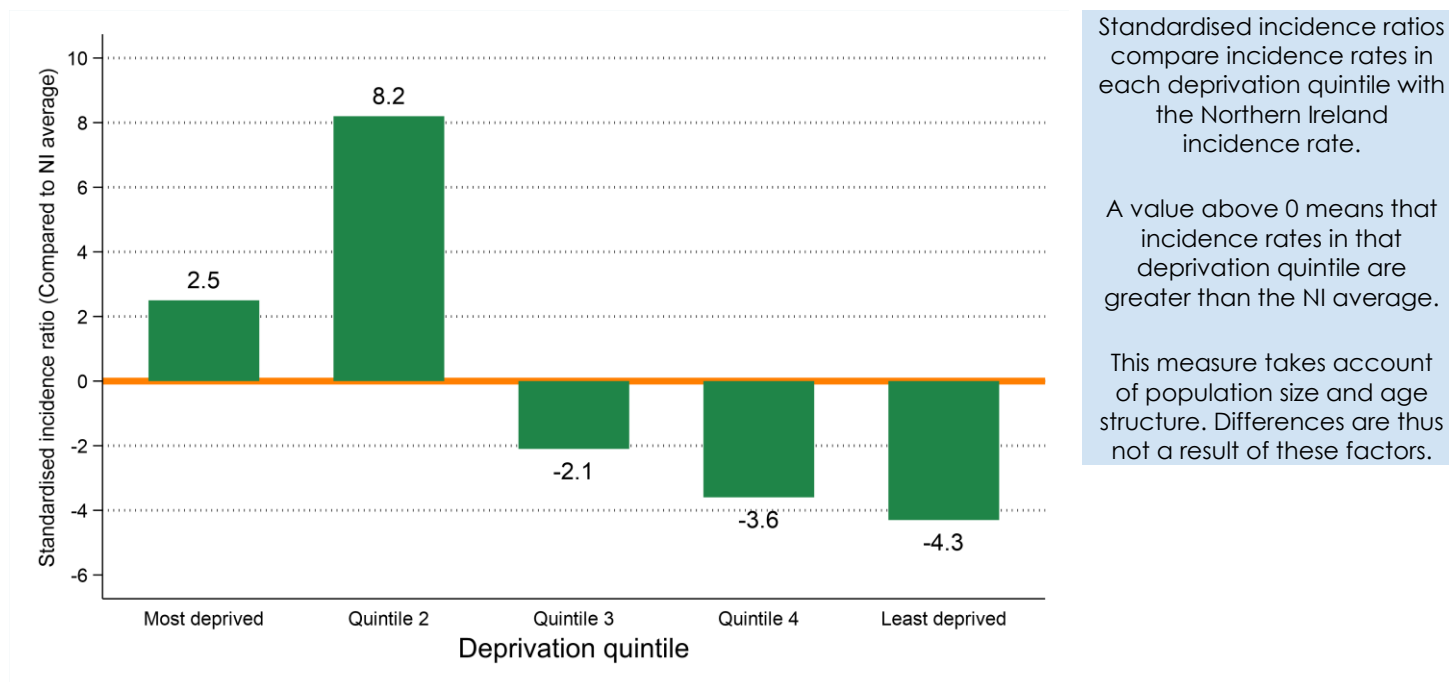
INCIDENCE BY DEPRIVATION

- The number of cases of malignant sarcoma 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 did not vary significantly from the NI average.
 - in the least socio-economically deprived areas did not vary significantly from the NI average.

Table 1: Number of cases of malignant sarcoma 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	486	97	251	50	235	47
Most deprived
Quintile 2	86	17	43	9	43	9
Quintile 3	106	21	55	11	51	10
Quintile 4	100	20	51	10	49	10
Least deprived	99	20	57	11	42	8
Unknown	95	19	45	9	50	10
Unknown	0	0	0	0	0	0

Figure 7: Standardised incidence ratio comparing deprivation quintile to Northern Ireland for malignant sarcoma diagnosed in 2017-2021



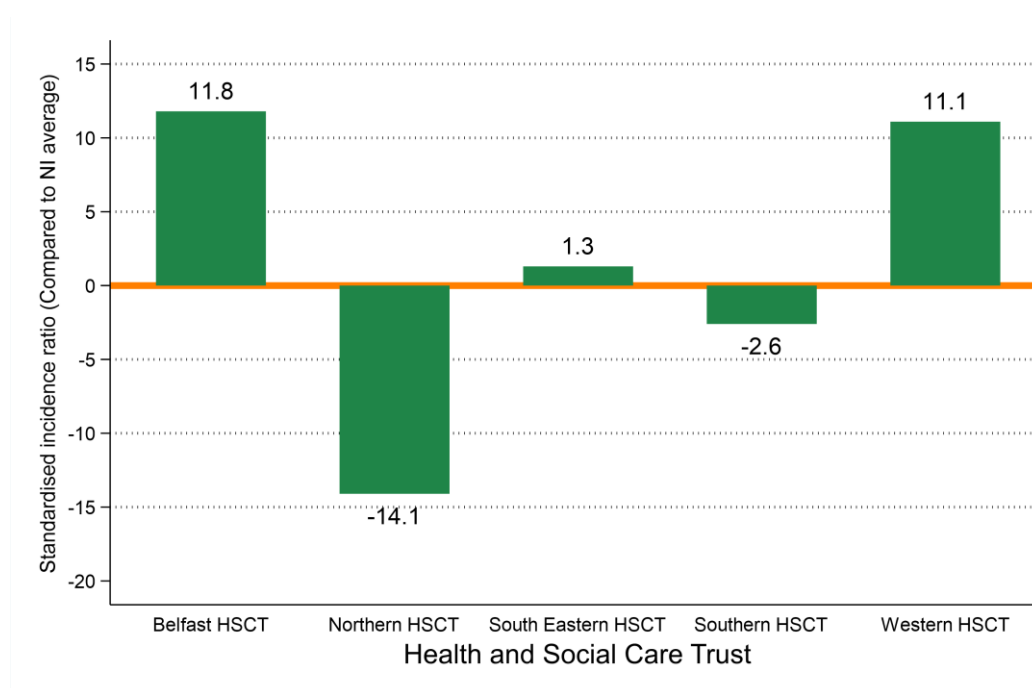
INCIDENCE BY HEALTH AND SOCIAL CARE TRUST

- The number of cases of malignant sarcoma 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 did not vary significantly from 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 2: Number of cases of malignant sarcoma 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	486	97	251	50	235	47
Belfast HSCT	100	20	50	10	50	10
Northern HSCT	109	22	60	12	49	10
South Eastern HSCT	100	20	49	10	51	10
Southern HSCT	92	18	51	10	41	8
Western HSCT	85	17	41	8	44	9
Unknown	0	0	0	0	0	0

Figure 8: Standardised incidence ratio comparing Health and Social Care Trust to Northern Ireland for malignant sarcoma diagnosed in 2017-2021



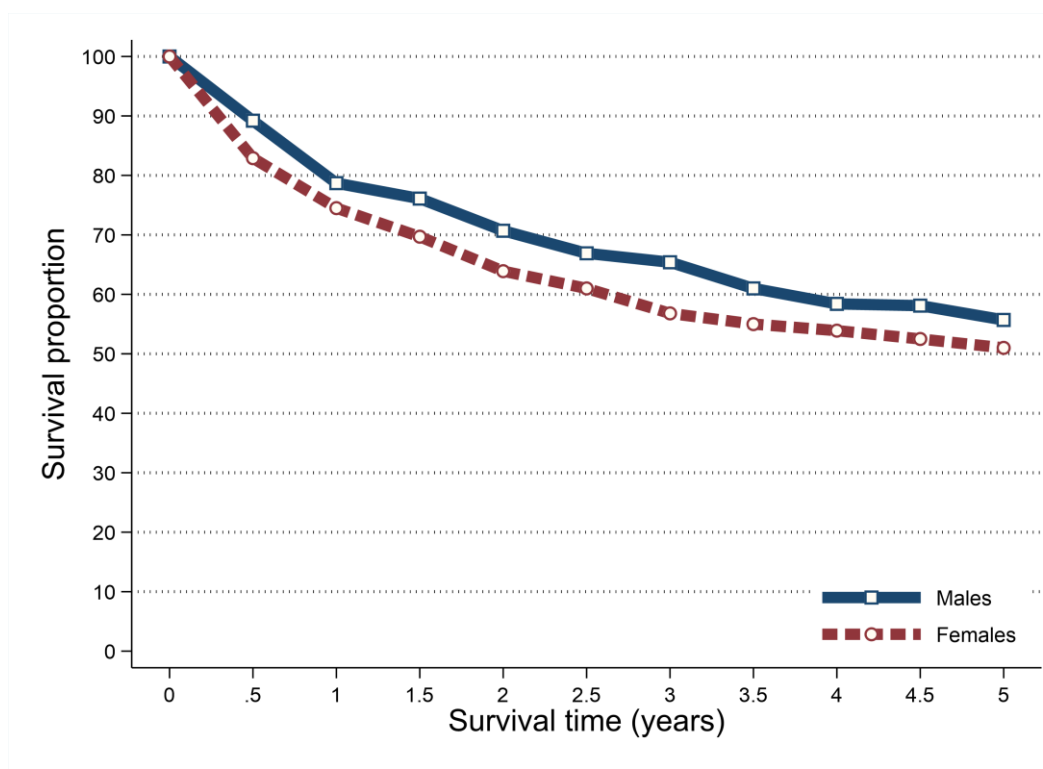
SURVIVAL

- 73.2% of patients were alive one year and 46.5% were alive five years from a malignant sarcoma diagnosis in 2012-2016. (observed survival)
- Age-standardised net survival (ASNS), which removes the effect of deaths from causes unrelated to cancer, was 76.4% one year and 52.9% five years from a malignant sarcoma diagnosis in 2012-2016.
- Five-year survival (ASNS) for malignant sarcoma patients diagnosed in 2012-2016 was 55.7% among men and 51.0% among women.

Table 3: Survival from malignant sarcoma 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	83.4%	85.5%	86.5%	89.2%	80.8%	82.9%
One year	73.2%	76.4%	75.4%	78.7%	71.5%	74.5%
Two years	62.9%	66.8%	65.5%	70.7%	60.7%	63.9%
Five years	46.5%	52.9%	46.1%	55.7%	46.7%	51.0%

Figure 9: Age-standardised net survival from malignant sarcoma 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.

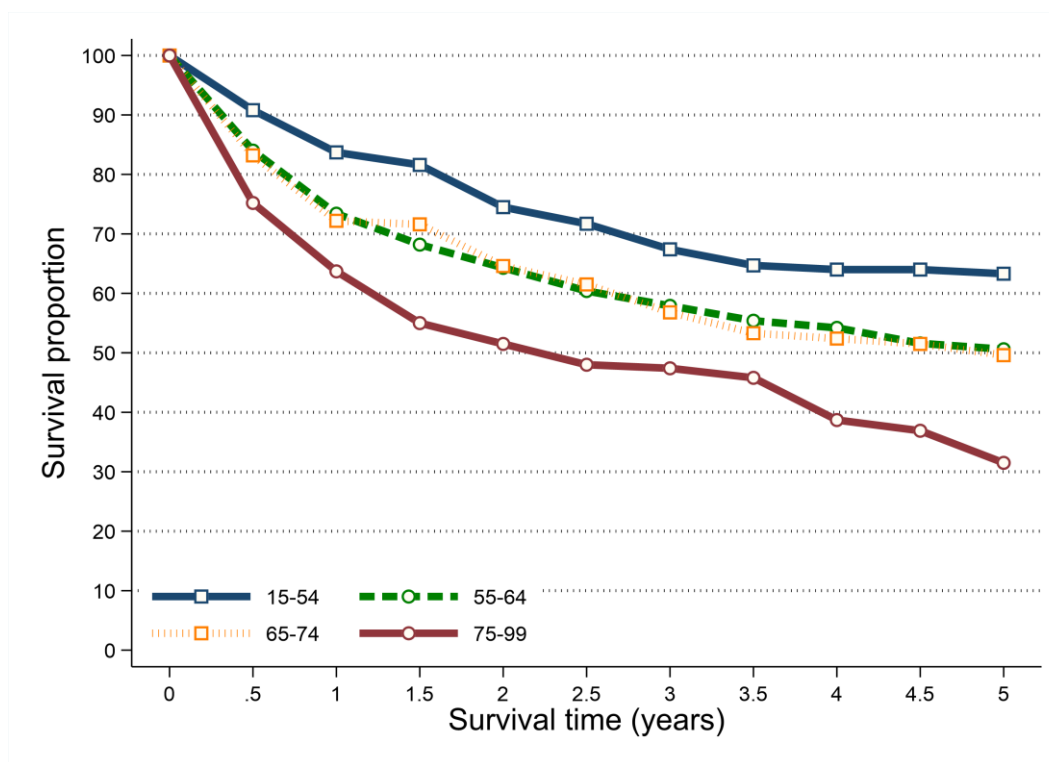
SURVIVAL BY AGE

- Survival from malignant sarcoma 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 63.3% among patients aged 15 to 54 at diagnosis to 31.5% among those aged 75 to 99.

Table 4: Net survival from malignant sarcoma for patients diagnosed in 2012-2016 by age at diagnosis

Age group	All persons	
	One-year	Five-years
15 to 54	83.7%	63.3%
55 to 64	73.4%	50.6%
65 to 74	72.2%	49.6%
75 to 99	63.7%	31.5%

Figure 10: Net survival from malignant sarcoma for patients diagnosed in 2012-2016 by age at diagnosis

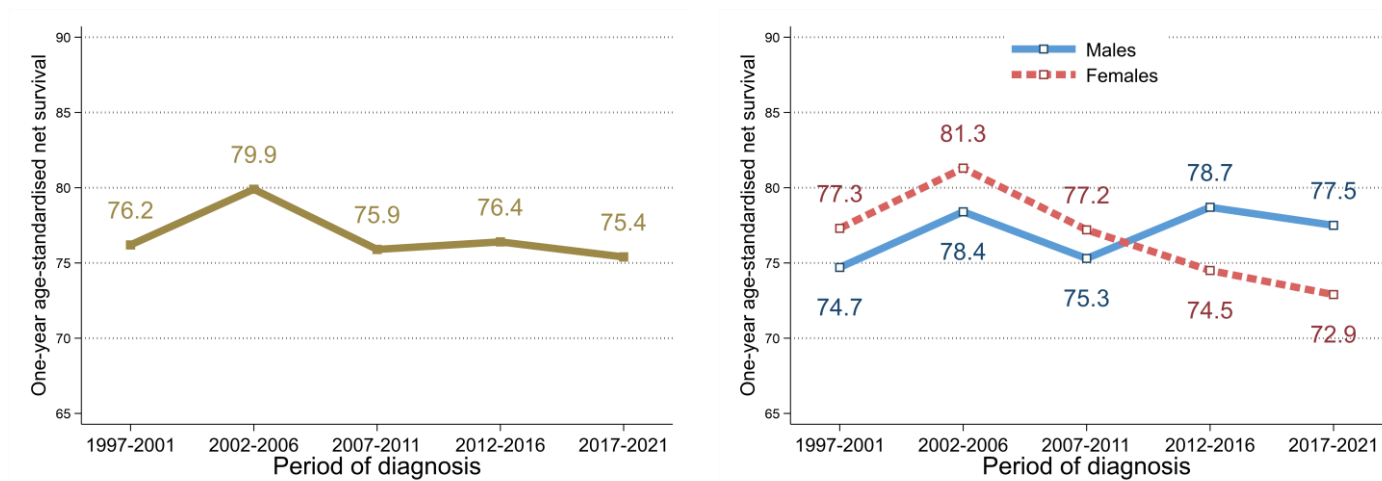


SURVIVAL TRENDS

ONE-YEAR NET SURVIVAL

- Between 2012-2016 and 2017-2021 there was no significant change in one-year survival (ASNS) from malignant sarcoma.
- Compared to 1997-2001 one-year survival (ASNS) from malignant sarcoma in 2017-2021 did not change significantly.

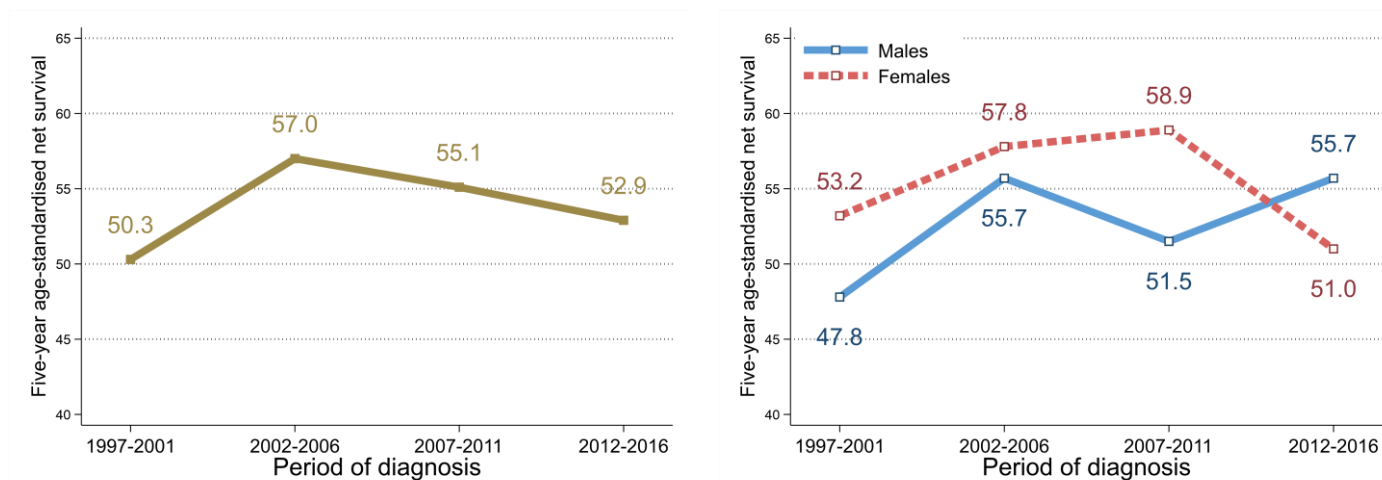
Figure 11: Trends in one-year age-standardised net survival from malignant sarcoma in 1997-2021



FIVE-YEAR NET SURVIVAL

- Between 2007-2011 and 2012-2016 there was no significant change in five-year survival (ASNS) from malignant sarcoma.
- Compared to 1997-2001 five-year survival (ASNS) from malignant sarcoma in 2012-2016 did not change significantly.

Figure 12: Trends in five-year age-standardised net survival from malignant sarcoma in 1997-2016



PREVALENCE

- At the end of 2021, there were 794 people (Males: 391; Females: 403) living with malignant sarcoma who had been diagnosed with the disease during 1997-2021.
- Of these 7.7% had been diagnosed in the previous year (one-year prevalence) and 57.7% in the previous 10 years (ten-year prevalence).
- 21.3% of malignant sarcoma survivors were aged 75 and over at the end of 2021.

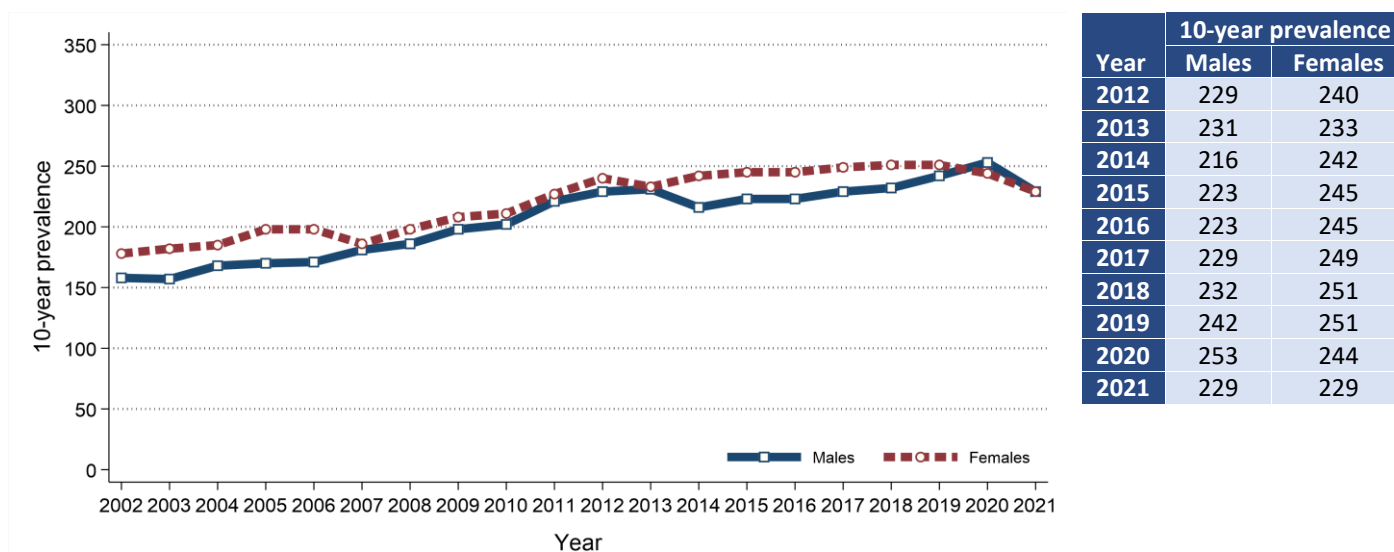
Table 5: 25-year prevalence of malignant sarcoma by age at end of 2021

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	794	61	230	167	336
	0 to 74	625	50	185	136	254
	75 and over	169	11	45	31	82
Male	All ages	391	30	128	71	162
	0 to 74	312	25	101	58	128
	75 and over	79	5	27	13	34
Female	All ages	403	31	102	96	174
	0 to 74	313	25	84	78	126
	75 and over	90	6	18	18	48

PREVALENCE TRENDS

- 10-year prevalence of malignant sarcoma among males increased between 2016 and 2021 by 2.7% from 223 survivors to 229 survivors.
- 10-year prevalence of malignant sarcoma among females decreased between 2016 and 2021 by 6.5% from 245 survivors to 229 survivors.

Figure 13: Trends in 10-year prevalence of malignant sarcoma in 2002-2021



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. malignant sarcoma 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. malignant sarcoma 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.