Malignant melanoma

Patients diagnosed 1993-2020
(ICD10: C43)

Further information

Further data is available at: **www.qub.ac.uk/research-centres/nicr**
Phone: +44 (0)28 9097 6028
e-mail: nicr@qub.ac.uk

Acknowledgements

The Northern Ireland Cancer Registry (NICR) is funded by the Public Health Agency and is based in Queen's University, Belfast. NICR uses data provided by patients and collected by the health service as part of their care and support.

The incidence, prevalence and survival statistics in this publication are designated as official statistics signifying that they comply with the Code of Practice for Official Statistics.

Incidence

During 2016-2020:

▪ There were 177 male and 205 female cases of malignant melanoma diagnosed each year.

▪ The risk of developing malignant melanoma before the age of 75 was 1 in 84 for men and 1 in 72 for women, while before the age of 85 the risk was 1 in 48 for men and 1 in 52 for women.

Incidence by age at diagnosis - *Malignant melanoma, Cases in 2016-2020*

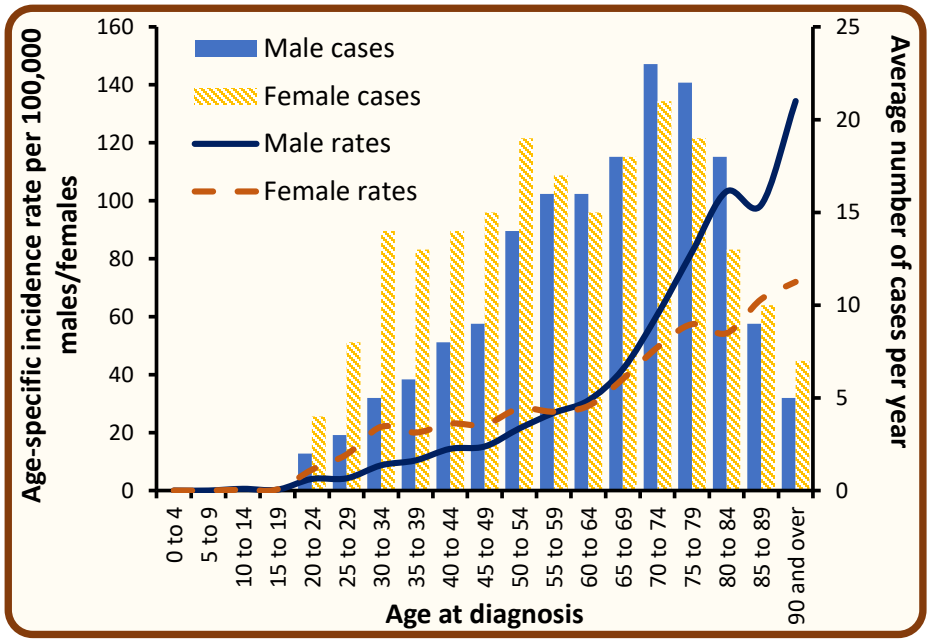
During 2016-2020:

▪ The median age at diagnosis was 67 for men and 59 for women.

▪ Cancer risk increased with age, with 30.5% of men and 23.9% of women aged 75 years or more at diagnosis.

▪ 35.1% of cases were diagnosed among those aged under 55.

Age at diagnosis	Average cases per year		
	Male	Female	Both sexes
0 - 54	47	87	134
54 - 64	32	32	64
65 - 74	41	39	80
75 +	54	49	103
All ages	177	205	382

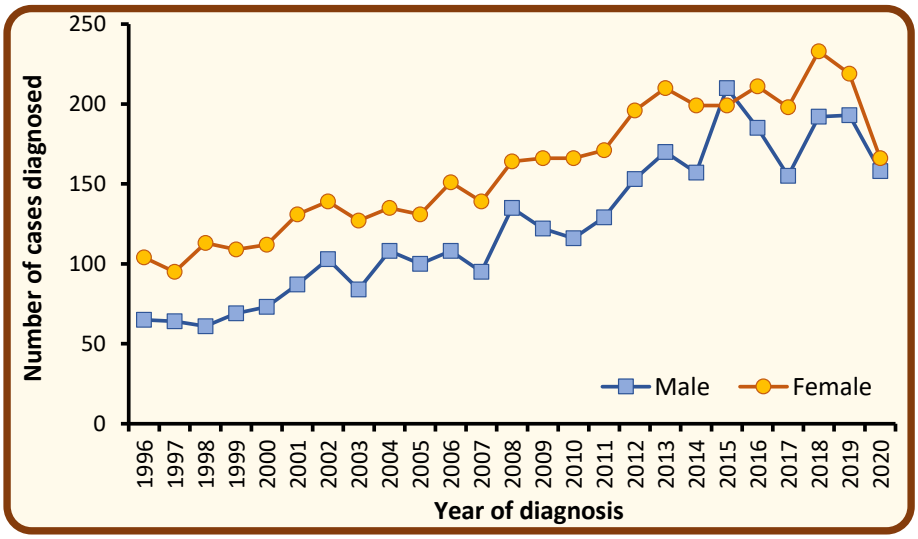


Incidence by year of diagnosis - *Malignant melanoma, Cases in 1996-2020*

▪ Among males the number of cases of malignant melanoma increased by 7.9% from an annual average of 164 cases in 2011-2015 to 177 cases in 2016-2020.

▪ Among females the number of cases of malignant melanoma increased by 5.1% from an annual average of 195 cases in 2011-2015 to 205 cases in 2016-2020.

Year of diagnosis	Male	Female	Both sexes
2011	129	171	300
2012	153	196	349
2013	170	210	380
2014	157	199	356
2015	210	199	409
2016	185	211	396
2017	155	198	353
2018	192	233	425
2019	193	219	412
2020	158	166	324

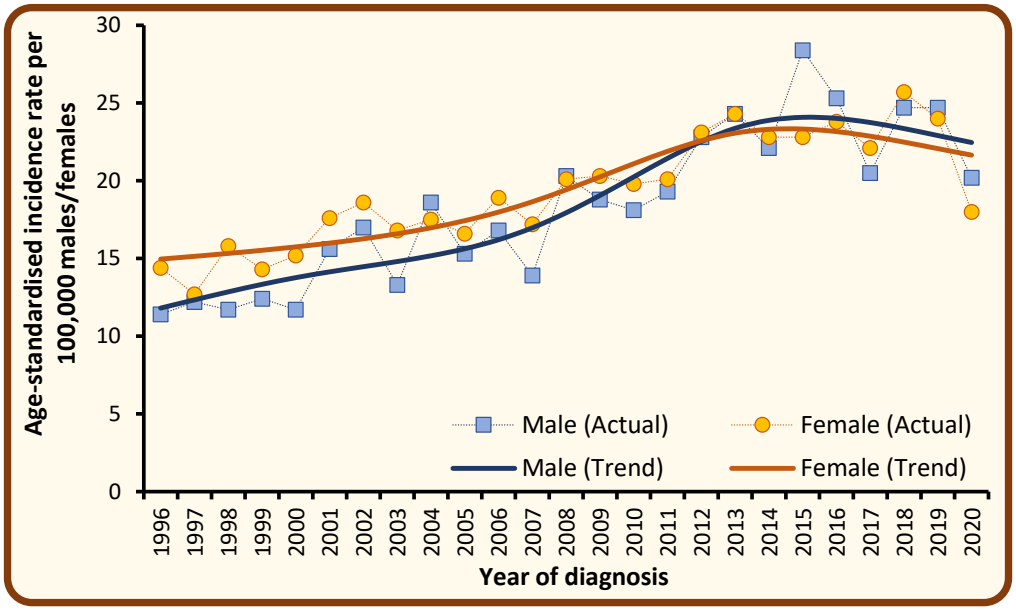


Note: Annual averages have been rounded to the nearest integer. Sums of numbers in table rows or columns may thus differ slightly from the given total.
NMSC: Non-melanoma skin cancer

Trends in age-standardised incidence rates - *Malignant melanoma, Cases in 1996-2020*

▪ Among males age-standardised incidence rates of malignant melanoma decreased by 1.7% from 23.4 per 100,000 person years in 2011-2015 to 23.0 cases per 100,000 persons years in 2016-2020. This difference was not statistically significant.

▪ Among females age-standardised incidence rates of malignant melanoma did not change between 2011-2015 and 2016-2020, with 22.7 cases per 100,000 person years in both five-year periods.



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 quintile - *Malignant melanoma, Cases in 2016-2020*

The annual number of cases during 2016-2020 varied in each deprivation quintile due to variations in population size and age.

After accounting for these factors, incidence rates:

▪ in the least socio-economically deprived areas were 14.8% higher than the NI average.

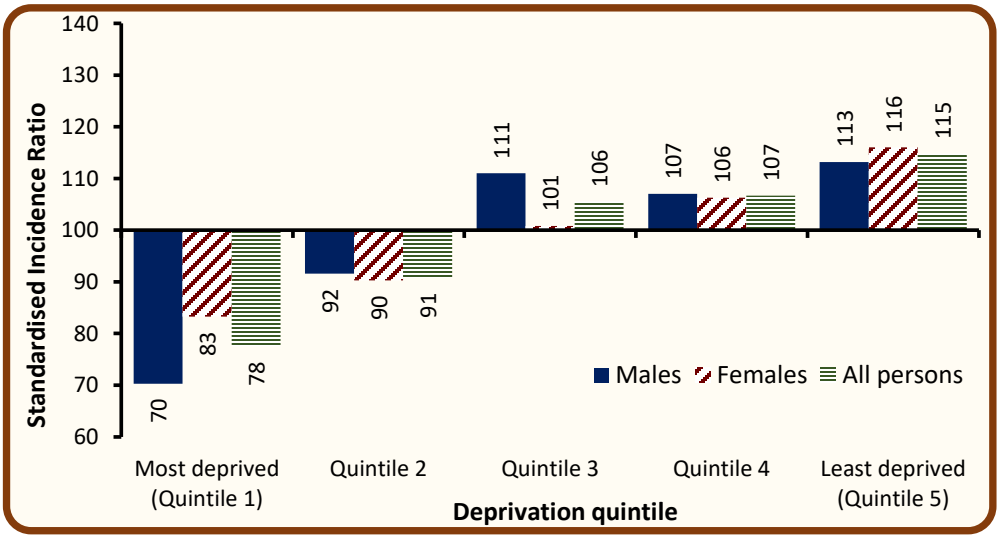
▪ in the most socio-economically deprived areas were 22.5% lower than the NI average.

Deprivation quintile	Average cases per year		
	Male	Female	Both sexes
Most deprived (Quintile 1)	21	30	51
Quintile 2	32	37	70
Quintile 3	42	43	85
Quintile 4	40	46	86
Least deprived (Quintile 5)	41	49	90
Northern Ireland	177	205	382

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

A value above 100 means that incidence rates in that deprivation quintile are greater than the Northern Ireland average.

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



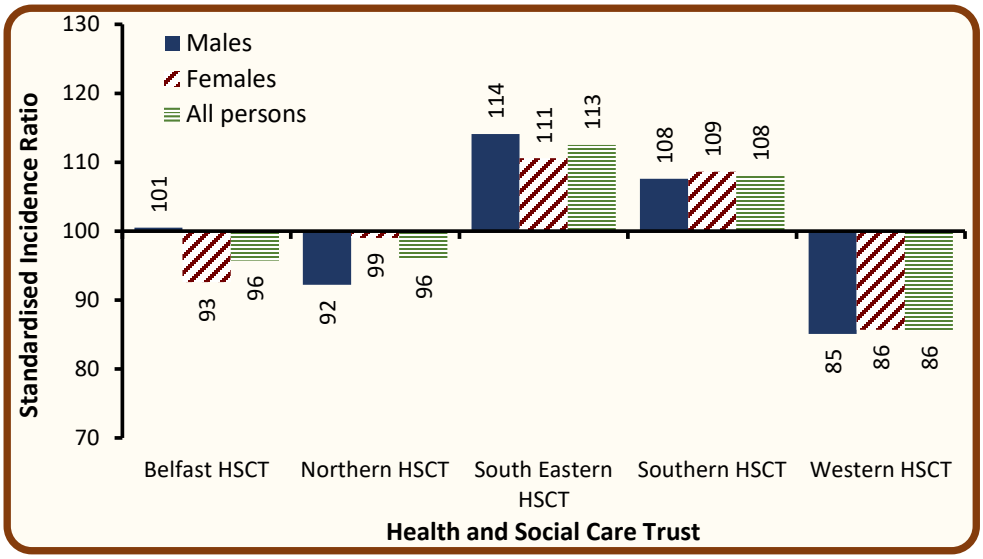
Incidence by Health and Social Care Trust (HSCT) - *Malignant melanoma, Cases in 2016-2020*

The annual number of cases during 2016-2020 varied in each HSCT due to variations in population size and age.

After accounting for these factors, incidence rates:

- in Belfast HSCT did not vary significantly from the NI average.
- in Northern HSCT did not vary significantly from the NI average.
- in South-Eastern HSCT were significantly higher than the NI average.
- in Southern HSCT did not vary significantly from the NI average.
- in Western HSCT were significantly lower than the NI average.

Health and Social Care Trust	Average cases per year		
	Male	Female	Both sexes
Belfast HSCT	32	36	68
Northern HSCT	43	53	96
South Eastern HSCT	41	46	88
Southern HSCT	37	43	79
Western HSCT	24	27	51
Northern Ireland	177	205	382



Standardised incidence ratios compare incidence rates in each HSC Trust with the Northern Ireland incidence rate. A value above 100 means that incidence rates in that HSC Trust are greater than the NI average.

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

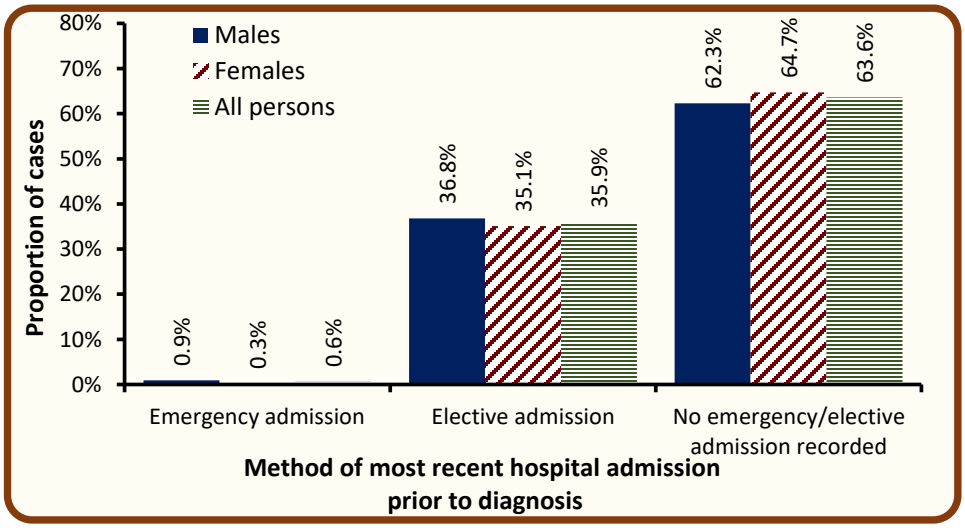
Data for Local Government Districts and Parliamentary Constituencies are available at www.qub.ac.uk/research-centres/nicr

Incidence by method of most recent admission to hospital - *Malignant melanoma, Cases in 2016-2020*

During 2016-2020:

- 0.6% of cases had an emergency admission to hospital recorded up to 30 days prior to their cancer diagnosis.
- 0.9% of male cases had an emergency admission up to 30 days prior to diagnosis, compared to 0.3% of female cases.
- In 63.6% of diagnosed cases there was no record of a hospital inpatient admission up to 30 days prior to diagnosis.

Method of admission	Average cases per year		
	Male	Female	Both sexes
Emergency admission	2	1	2
Elective admission	65	72	137
No emergency/elective admission recorded	110	133	243
Total	177	205	382



Admission method refers to the most recent hospital inpatient admission that a patient had prior to cancer diagnosis, regardless of reason for the admission.

Admissions are considered up to a maximum of 30 days prior to diagnosis. Admissions up to two days post diagnosis are also considered to allow for a reasonable margin or error in data recording.

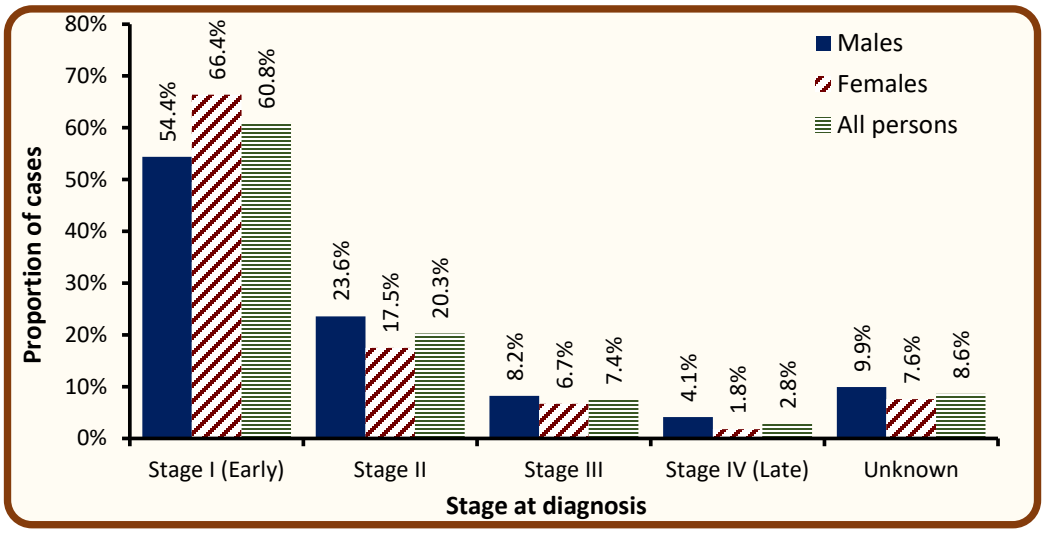
The majority of patients with no inpatient admission recorded prior to diagnosis are likely to have been diagnosed via an outpatient route.

Incidence by stage at diagnosis - *Malignant melanoma, Cases in 2016-2020*

During 2016-2020:

- 91.4% of cases diagnosed had a stage assigned.
- 60.8% of cases were diagnosed at an early stage (stage I). (66.6% of staged cases)
- 2.8% of cases were diagnosed at a late stage (stage IV). (3.1% of staged cases)
- Among cases which were staged, 4.5% of male cases were diagnosed at stage IV, compared to 1.9% of female cases.

Stage at diagnosis	Average cases per year		
	Male	Female	Both sexes
Stage I (Early)	96	136	232
Stage II	42	36	78
Stage III	14	14	28
Stage IV (Late)	7	4	11
Unknown	17	16	33
All stages	177	205	382



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).

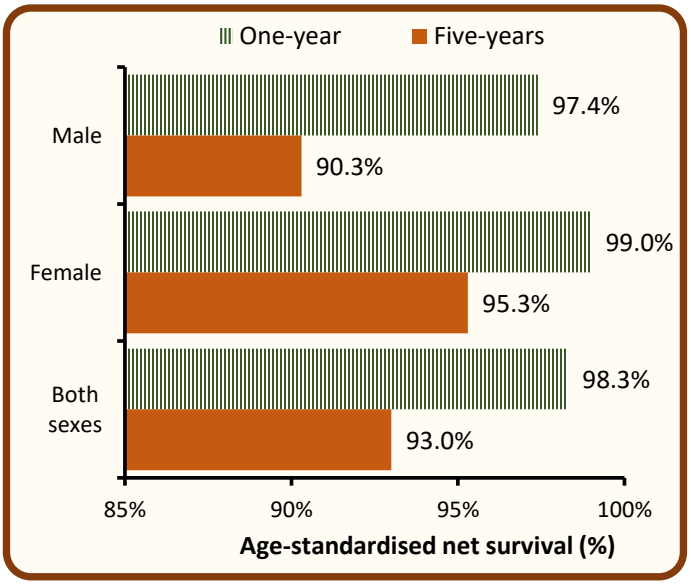
Survival

- 96.1% of patients were alive one year and 82.6% were alive five years from a malignant melanoma diagnosis in 2011-2015. (observed survival)
- Age-standardised net survival (ASNS), which removes the effect of deaths from causes unrelated to cancer, was 98.3% one year and 93.0% five years from a malignant melanoma diagnosis in 2011-2015.
- Five-year survival (ASNS) for malignant melanoma patients diagnosed in 2011-2015 was 90.3% among men and 95.3% among women.

Gender	Observed survival		Age-standardised net survival	
	One-year	Five-years	One-year	Five-years
Male	94.4%	76.8%	97.4%	90.3%
Female	97.6%	87.5%	99.0%	95.3%
Both sexes	96.1%	82.6%	98.3%	93.0%

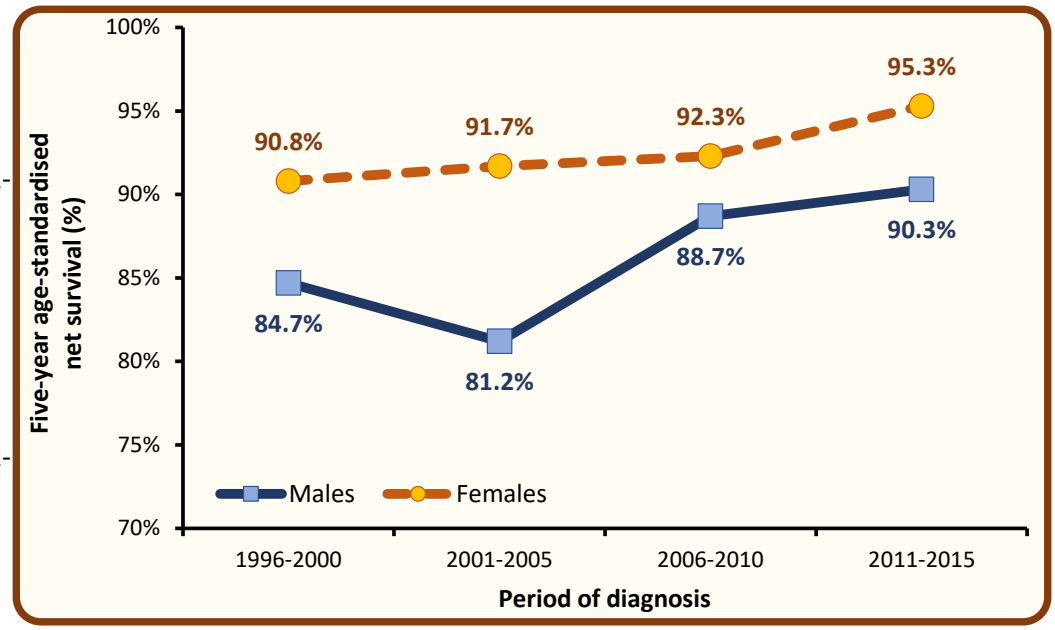
Observed survival is the proportion of patients still alive one/five years after diagnosis. However, in this measure patients may have died from causes unrelated to their cancer.

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



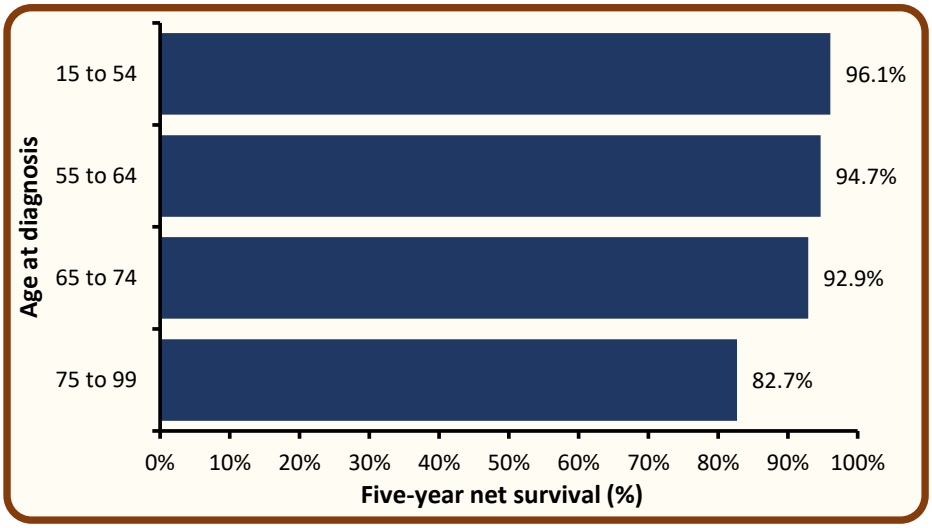
Trends in survival - *Malignant melanoma, Patients diagnosed in 1996-2015*

- Among men five-year survival (ASNS) from malignant melanoma increased from 88.7% in 2006-2010 to 90.3% in 2011-2015. This difference was not statistically significant.
- Among women five-year survival (ASNS) from malignant melanoma increased from 92.3% in 2006-2010 to 95.3% in 2011-2015. This difference was not statistically significant.



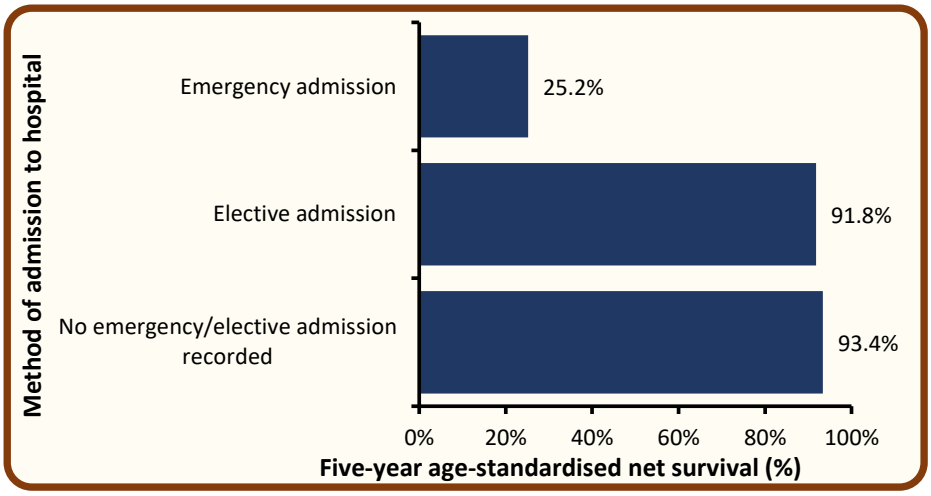
Survival by age at diagnosis - *Malignant melanoma, Patients diagnosed in 2011-2015*

- Survival from malignant melanoma among patients diagnosed in 2011-2015 was strongly related to age with five-year survival decreasing as age increases.
- Five-year net survival ranged from 96.1% among patients aged 15 to 54 at diagnosis to 82.7% among those aged 75 and over.



Survival by method of most recent admission to hospital - *Malignant melanoma, Patients diagnosed in 2010-2015*

- Five-year survival (ASNS) among malignant melanoma patients who had an emergency admission to hospital up to 30 days prior to their cancer diagnosis was 25.2% compared to 91.8% among those with elective admissions and 93.4% among those who had no hospital admissions recorded up to 30 days prior to diagnosis.

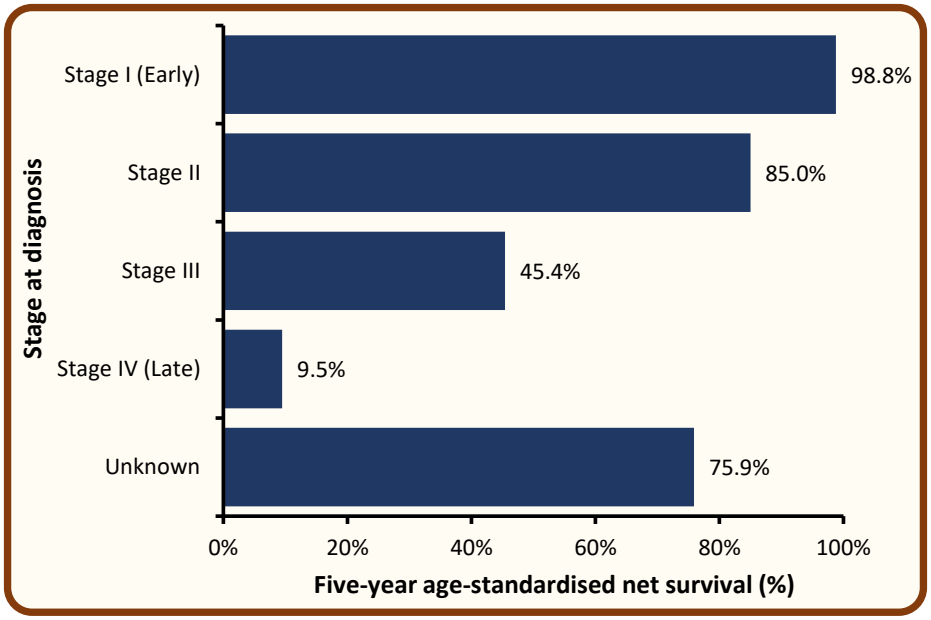


Survival by stage at diagnosis - *Malignant melanoma, Patients diagnosed in 2011-2015*

▪ Stage at diagnosis is one of the most important factors in malignant melanoma survival with five-year survival decreasing as stage increases.

▪ Five-year survival (ASNS) ranged from 98.8% for early stage (stage I) disease to 9.5% for late stage (stage IV) disease.

▪ Five-year survival (ASNS) for unstaged cancer was 75.9%.



Prevalence

▪ At the end of 2020, there were 4,839 people (Males: 1,945; Females: 2,894) living with malignant melanoma who had been diagnosed with the disease during 1996-2020.

▪ Of these, 40.2% were male, 28.0% were aged 75 and over, and 6.6% had been diagnosed in the previous year.

25-year prevalence refers to the number of cancer survivors who were alive at the end of 2020, and had been diagnosed with their cancer in the previous 25 years (i.e. 1996-2020).

Time since diagnosis	25-year prevalence								
	Aged 0-74			Aged 75+			All ages		
	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes
0-1 year	97	125	222	55	40	95	152	165	317
1-5 years	401	578	979	189	179	368	590	757	1,347
5-10 years	376	585	961	162	200	362	538	785	1,323
10-25 years	458	866	1,324	207	321	528	665	1,187	1,852
0-25 years	1,332	2,154	3,486	613	740	1,353	1,945	2,894	4,839

Trends in 10-year prevalence - *Malignant melanoma, Patients alive at end of each year from 2011-2020*

▪ Among males the number of survivors from malignant melanoma who had been diagnosed within the previous ten years increased by 17.8% from 1,087 survivors in 2015 to 1,280 survivors in 2020.

▪ Among females the number of survivors from malignant melanoma who had been diagnosed within the previous ten years increased by 13.5% from 1,504 survivors in 2015 to 1,707 survivors in 2020.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	823	877	969	1,003	1,087	1,138	1,173	1,212	1,264	1,280
Female	1,257	1,307	1,384	1,441	1,504	1,573	1,616	1,680	1,713	1,707
Both sexes	2,080	2,184	2,353	2,444	2,591	2,711	2,789	2,892	2,977	2,987

Mortality

- During 2016-2020 there were 33 male and 25 female deaths from malignant melanoma each year.
- Malignant melanoma made up 1.4% of all male, and 1.2% of all female cancer deaths (ex NMSC).

Deaths by age at death - *Malignant melanoma, Deaths in 2016-2020*

- The median age at death during 2016-2020 was 74 for men and 75 for women.
- Risk of death from malignant melanoma was strongly related to age, with 48.5% of men and 52.0% of women aged 75 years or more at time of death.
- 12.1% of malignant melanoma deaths occurred among those aged under 55.

Age at death	Average deaths per year		
	Male	Female	Both sexes
0 - 54	4	3	7
55 - 64	4	3	8
65 - 74	9	5	14
75 +	16	13	29
All ages	33	25	58

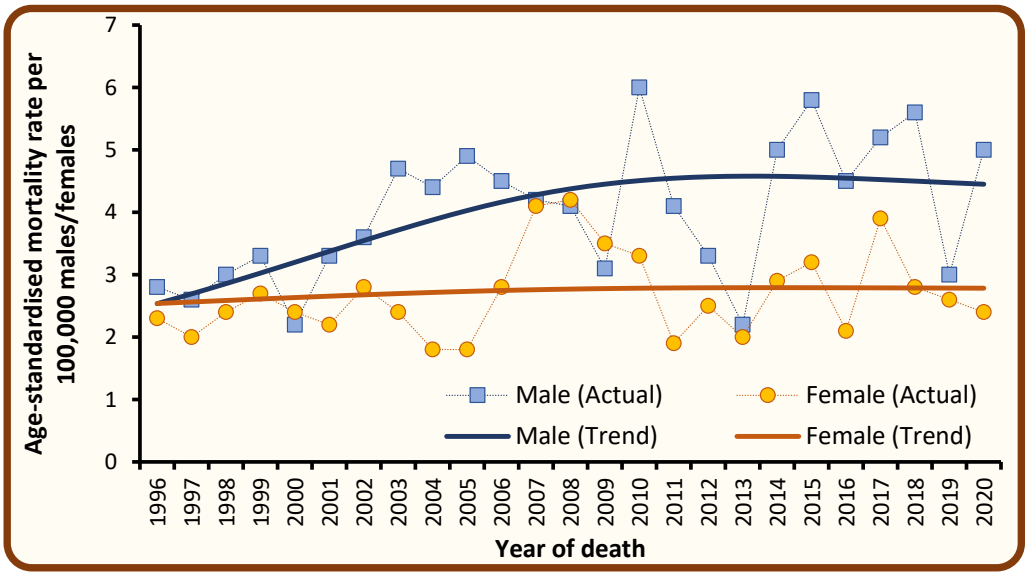
Deaths by year of death - *Malignant melanoma, Deaths in 2011-2020*

- Among males the number of deaths from malignant melanoma increased by 26.9% from an annual average of 26 deaths in 2011-2015 to 33 deaths in 2016-2020.
- Among females the number of deaths from malignant melanoma increased by 19.0% from an annual average of 21 deaths in 2011-2015 to 25 deaths in 2016-2020.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	26	22	15	30	36	30	38	41	21	36
Female	16	21	17	25	27	18	35	25	24	22
Both sexes	42	43	32	55	63	48	73	66	45	58

Trends in age-standardised mortality rates - *Malignant melanoma, Deaths in 1996-2020*

- Among males age-standardised mortality rates from malignant melanoma increased by 14.6% between 2011-2015 and 2016-2020 from 4.1 to 4.7 deaths per 100,000 persons years. This difference was not statistically significant.
- Among females age-standardised mortality rates from malignant melanoma increased by 12.0% between 2011-2015 and 2016-2020 from 2.5 to 2.8 deaths per 100,000 persons years. This difference was not statistically significant.



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

Counts of the number of deaths are based upon the year that death occurred, and upon the primary cause of death only.

Age-standardised mortality rates remove changes over time caused by population growth and/or ageing.

Background notes

Cancer classification: Classification of tumour sites is carried out using ICD10 codes. For a listing and explanation of ICD10 codes see: World Health Organisation at http://apps.who.int/classifications/icd10/browse/2010/en#/II

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

Geographic areas are assigned based on a patient's postcode of usual residence at diagnosis using the Jan 2021 Central Postcode Directory (CPD) produced by the NI Statistics and Research Agency (available at www.nisra.gov.uk).

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

A **crude incidence/mortality rate** is the number of cases/deaths per 100,000 person years in the population. Person years are the sum of the population over the number of years included.

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

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

Confidence intervals are a measure of the precision of a statistic (e.g. colorectal cancer incidence rate). Typically, when numbers are low, precision is poorer and confidence intervals will be wider. As a general rule, when comparing statistics (e.g. cervical cancer incidence rate in year 2012 vs year 2013), if the confidence interval around one statistic overlaps with the interval around another, it is unlikely that there is any real difference between the two. If there is no overlap, the difference is considered to be **statistically significant**.

Lifetime risk is estimated as the cumulative risk of getting cancer up to age 75/85, calculated directly from the age-specific incidence rates. The odds of developing the disease before age 75/85 is the inverse of the cumulative risk.

Prevalence is the number of cancer patients who are alive in the population on a specific date (31st December 2020 in this report). Since data from the NI Cancer Registry are only available since 1993, prevalence only refers to a fixed term (10 and 25 years in this report). There may be members of the population living with a diagnosis of cancer for more than 25 years.

Observed survival refers to the proportion of patients who survive a specified amount of time from their date of diagnosis. Observed survival considers death from any cause and is not adjusted for the age of the patient. Cause of death may be unrelated to the cancer the patient has been diagnosed with.

Net Survival is an estimate of survival where the effect on survival of background population mortality rates has been removed. It represents the [theoretical] survival of cancer patients if they could only die from cancer-related causes. Age-standardised net survival estimates are the estimates that would occur if that population of cancer patients had a standard population age structure. The age groups and weights used here are those used by international studies such as EUROCARE, an international study group that compares cancer survival among European countries. However, due to the small number of patients in NI, the last two age categories in the standard population are combined.

Mortality: Information relating to cancer mortality is sourced from the General Registrar Office (GRONI) via the Department of Health (NI). Results are based upon the date on which death occurs, and may thus differ slightly than those produced by the Northern Ireland Statistics and Research Agency (NISRA), which produces deaths data based upon the date on which the death is registered with GRONI.