Bladder cancer

Patients diagnosed 1993-2020
(ICD10: C67)

Further information

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

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Acknowledgements

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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 165 male and 66 female cases of bladder cancer diagnosed each year.

▪ The risk of developing bladder cancer before the age of 75 was 1 in 116 for men and 1 in 344 for women, while before the age of 85 the risk was 1 in 45 for men and 1 in 152 for women.

Incidence by age at diagnosis - *Bladder cancer, Cases in 2016-2020*

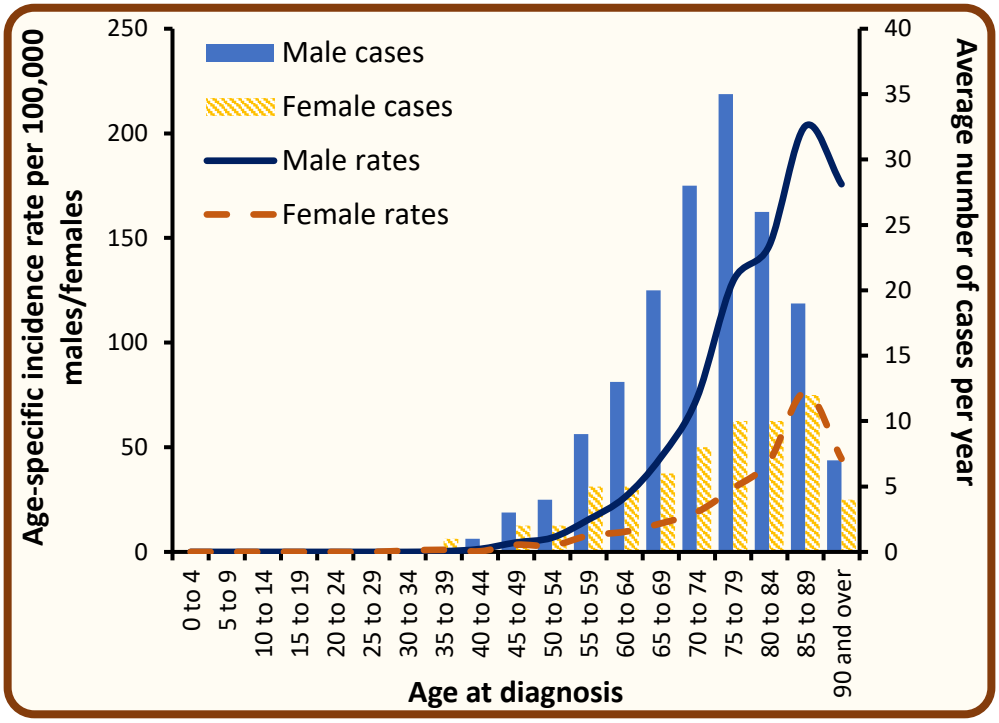
During 2016-2020:

▪ The median age at diagnosis was 75 for men and 76 for women.

▪ Cancer risk increased with age, with 52.7% of men and 54.5% of women aged 75 years or more at diagnosis.

▪ 5.7% of cases were diagnosed among those aged under 55.

Age at diagnosis	Average cases per year		
	Male	Female	Both sexes
0 - 54	8	5	13
54 - 64	22	10	32
65 - 74	48	14	62
75 +	87	36	122
All ages	165	66	230

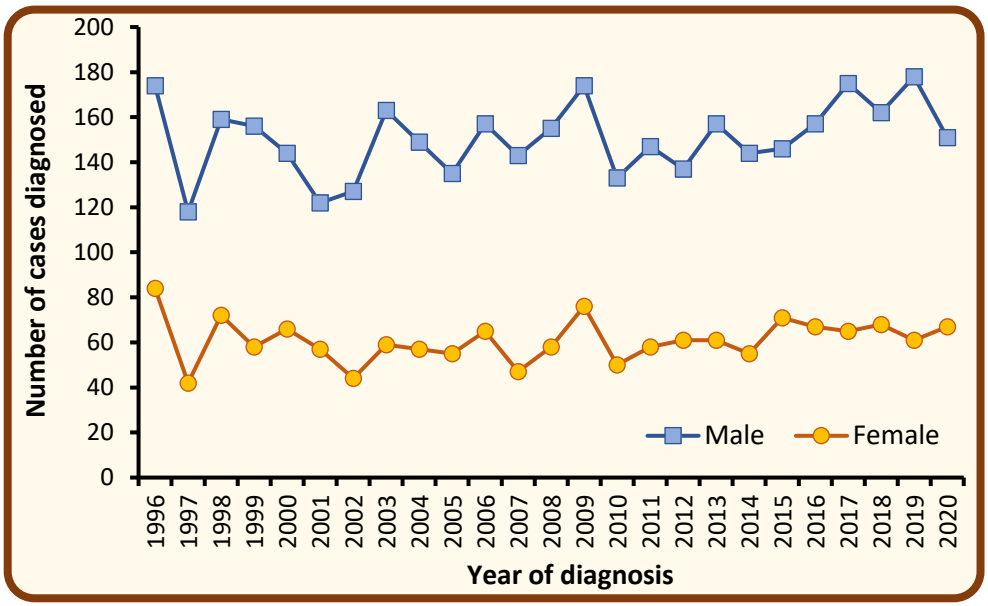


Incidence by year of diagnosis - *Bladder cancer, Cases in 1996-2020*

▪ Among males the number of cases of bladder cancer increased by 13.0% from an annual average of 146 cases in 2011-2015 to 165 cases in 2016-2020.

▪ Among females the number of cases of bladder cancer increased by 8.2% from an annual average of 61 cases in 2011-2015 to 66 cases in 2016-2020.

Year of diagnosis	Male	Female	Both sexes
2011	147	58	205
2012	137	61	198
2013	157	61	218
2014	144	55	199
2015	146	71	217
2016	157	67	224
2017	175	65	240
2018	162	68	230
2019	178	61	239
2020	151	67	218



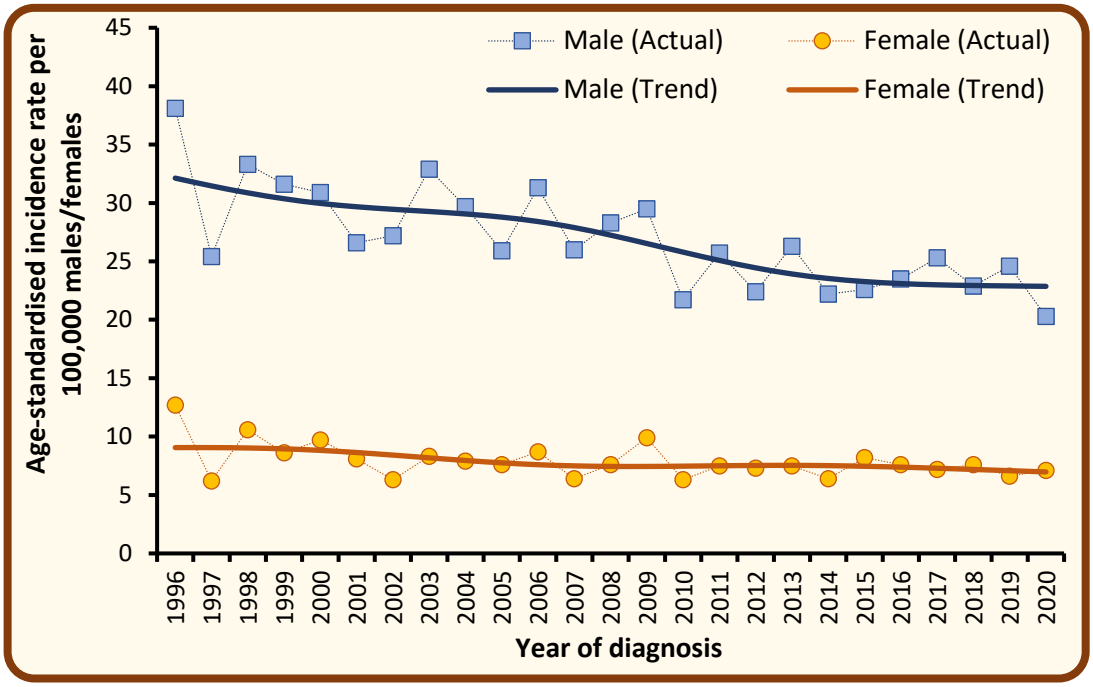
Note: Annual averages have been rounded to the nearest integer. Sums of numbers in table rows or columns may thus differ slightly from the given total.

NMSC: Non-melanoma skin cancer

Trends in age-standardised incidence rates - *Bladder cancer, Cases in 1996-2020*

▪ Among males age-standardised incidence rates of bladder cancer decreased by 2.1% from 23.8 per 100,000 person years in 2011-2015 to 23.3 cases per 100,000 persons years in 2016-2020. This difference was not statistically significant.

▪ Among females age-standardised incidence rates of bladder cancer decreased by 2.7% from 7.4 per 100,000 person years in 2011-2015 to 7.2 cases per 100,000 persons years in 2016-2020. This difference was not statistically significant.



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 - *Bladder cancer, 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 did not vary significantly from the NI average.

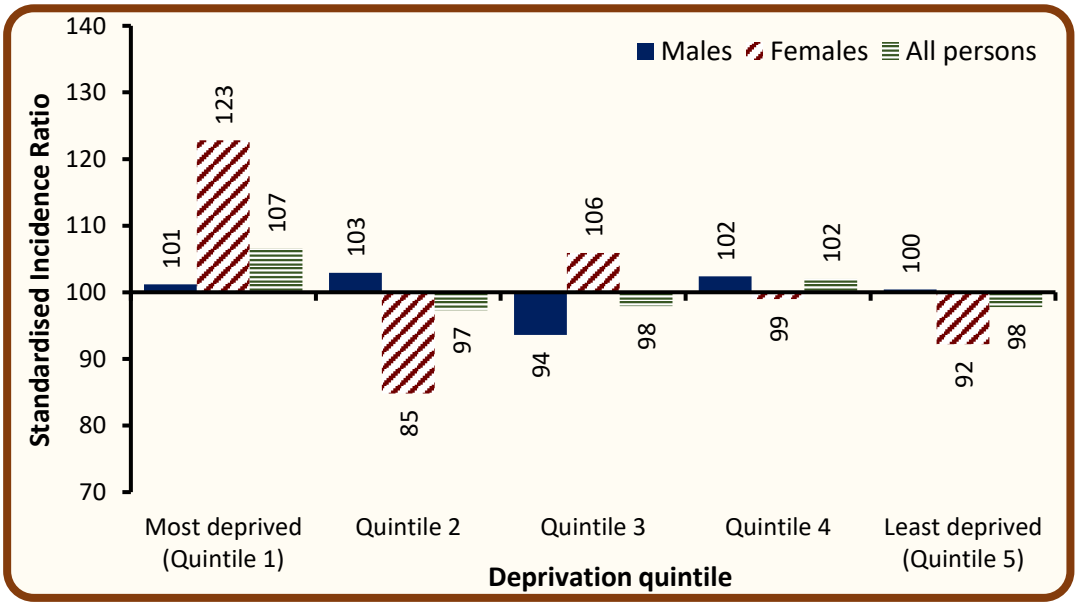
▪ in the most socio-economically deprived areas did not vary significantly from the NI average.

Deprivation quintile	Average cases per year		
	Male	Female	Both sexes
Most deprived (Quintile 1)	26	13	40
Quintile 2	34	11	45
Quintile 3	33	14	47
Quintile 4	36	14	50
Least deprived (Quintile 5)	36	13	49
Northern Ireland	165	66	230

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.



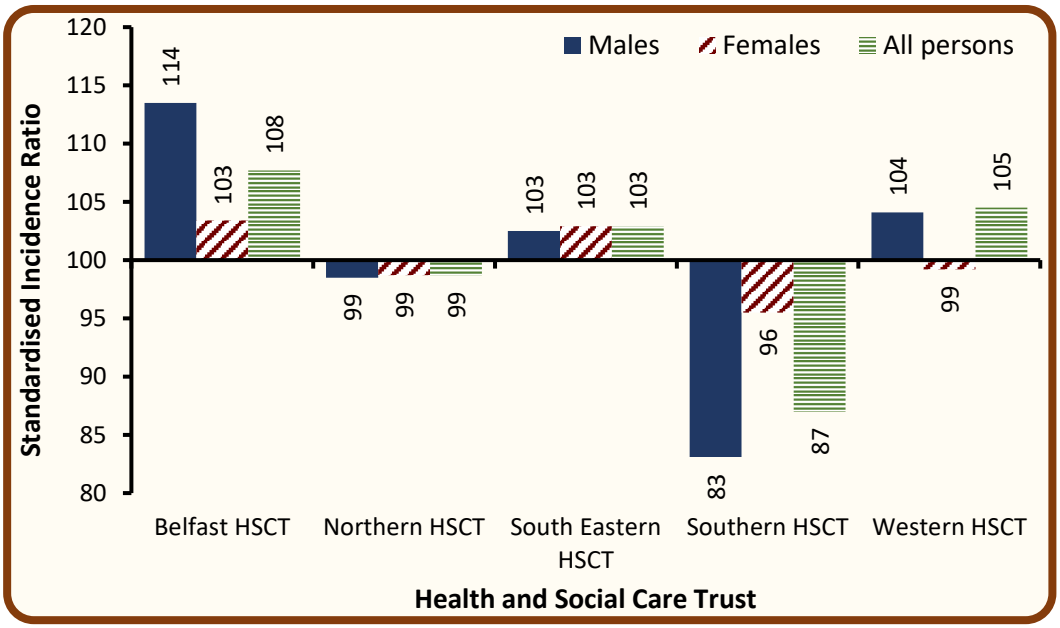
Incidence by Health and Social Care Trust (HSCT) - *Bladder cancer, Cases in 2016-2020*

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 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.

Health and Social Care Trust	Average cases per year		
	Male	Female	Both sexes
Belfast HSCT	33	13	46
Northern HSCT	44	17	61
South Eastern HSCT	36	14	50
Southern HSCT	25	11	37
Western HSCT	27	10	37
Northern Ireland	165	66	230



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.

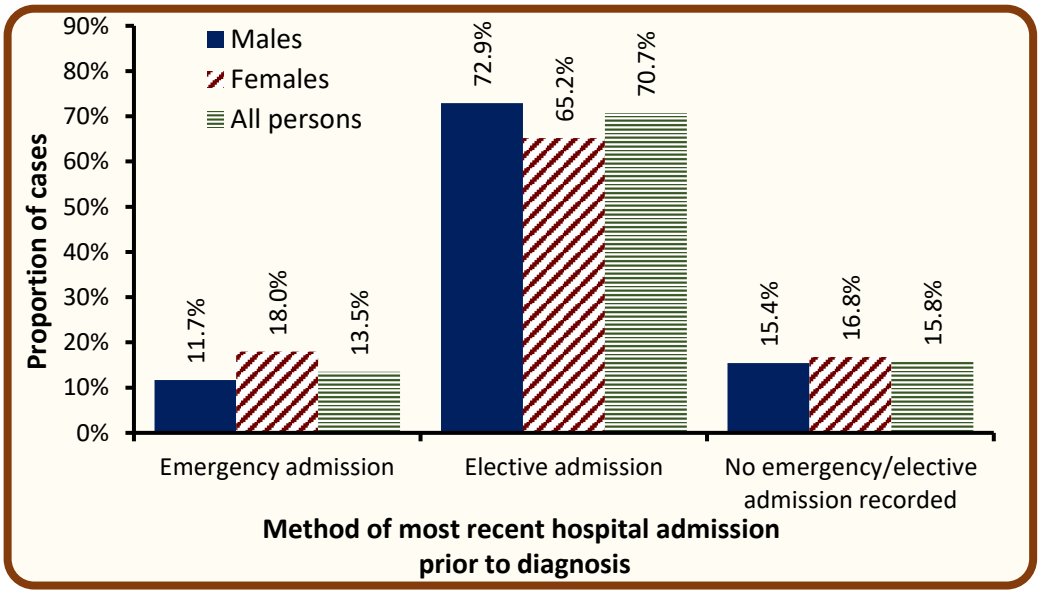
Data for Local Government Districts and Parliamentary Constituencies are available at www.qub.ac.uk/research-centres/nicr

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

During 2016-2020:

- 13.5% of cases had an emergency admission to hospital recorded up to 30 days prior to their cancer diagnosis.
- 11.7% of male cases had an emergency admission up to 30 days prior to diagnosis, compared to 18.0% of female cases.
- In 15.8% 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	19	12	31
Elective admission	120	43	163
No emergency/elective admission recorded	25	11	36
Total	165	66	230



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.

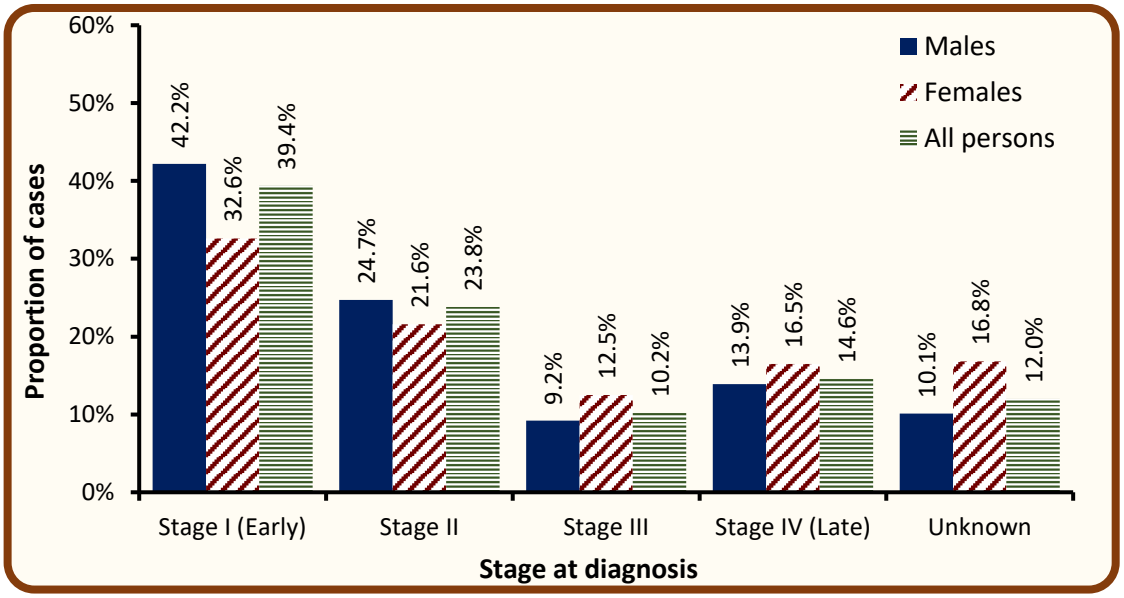
The majority of patients with no inpatient admission recorded prior to diagnosis are likely to have been diagnosed via an outpatient route.

Incidence by stage at diagnosis - *Bladder cancer, Cases in 2016-2020*

During 2016-2020:

- 88.0% of cases diagnosed had a stage assigned.
- 39.4% of cases were diagnosed at stage I. (44.8% of staged cases)
- 14.6% of cases were diagnosed at stage IV. (16.6% of staged cases)
- Among cases which were staged, 15.4% of male cases were diagnosed at stage IV, compared to 19.8% of female cases.

Stage at diagnosis	Average cases per year		
	Male	Female	Both sexes
Stage I (Early)	69	21	91
Stage II	41	14	55
Stage III	15	8	23
Stage IV (Late)	23	11	34
Unknown	17	11	28
All stages	165	66	230



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).

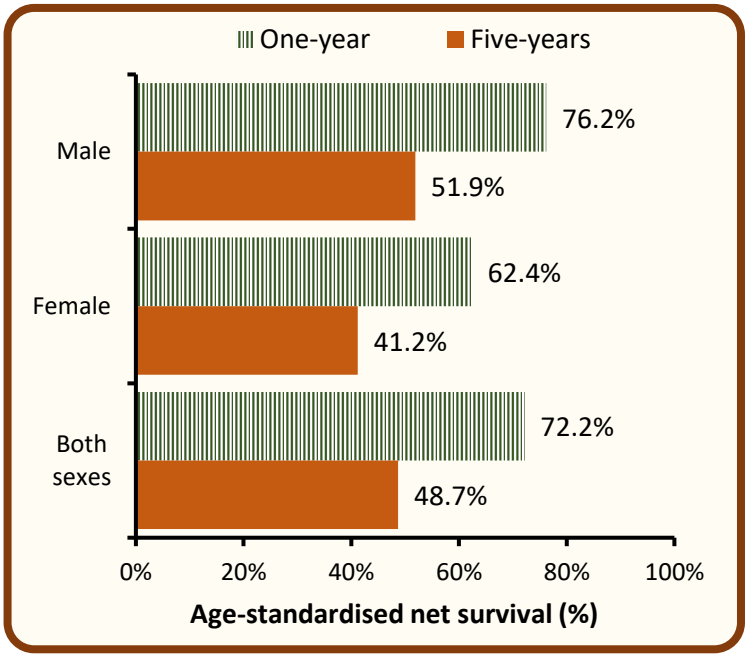
Survival

- 64.4% of patients were alive one year and 34.6% were alive five years from a bladder cancer diagnosis in 2011-2015. (observed survival)
- Age-standardised net survival (ASNS), which removes the effect of deaths from causes unrelated to cancer, was 72.2% one year and 48.7% five years from a bladder cancer diagnosis in 2011-2015.
- Five-year survival (ASNS) for bladder cancer patients diagnosed in 2011-2015 was 51.9% among men and 41.2% among women.

Gender	Observed survival		Age-standardised net survival	
	One-year	Five-years	One-year	Five-years
Male	68.4%	36.7%	76.2%	51.9%
Female	54.8%	29.7%	62.4%	41.2%
Both sexes	64.4%	34.6%	72.2%	48.7%

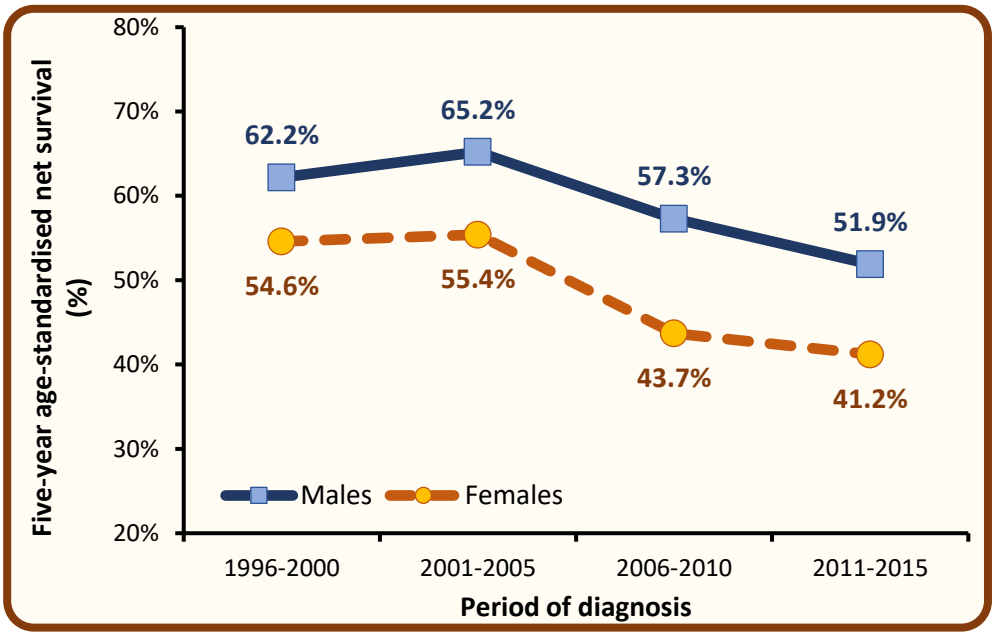
Observed survival is the proportion of patients still alive one/five years after diagnosis. However, in this measure patients may have died from causes unrelated to their cancer.

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.



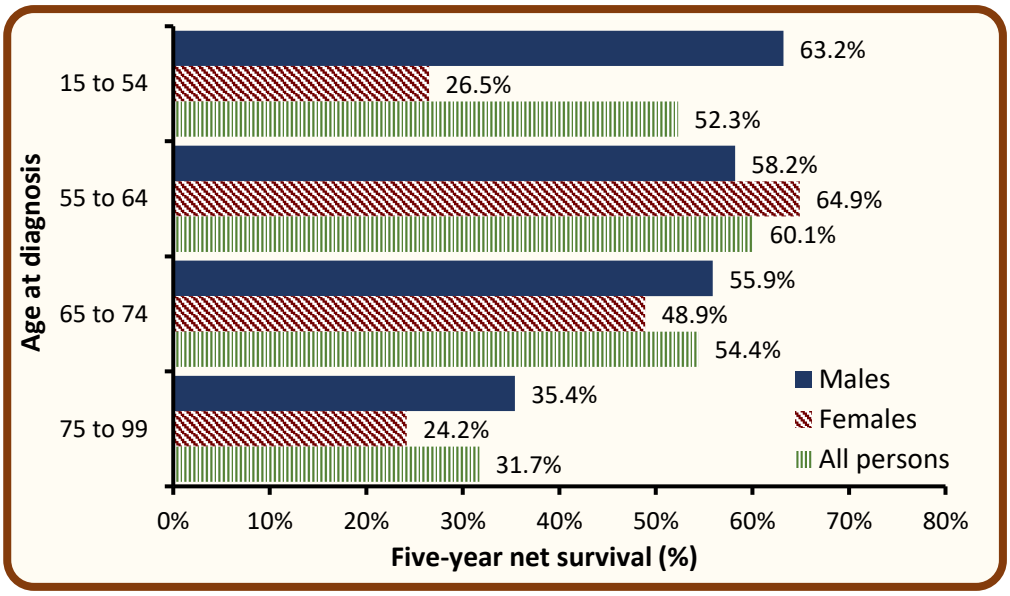
Trends in survival - *Bladder cancer, Patients diagnosed in 1996-2015*

- Among men five-year survival (ASNS) from bladder cancer decreased from 57.3% in 2006-2010 to 51.9% in 2011-2015. This difference was not statistically significant.
- Among women five-year survival (ASNS) from bladder cancer decreased from 43.7% in 2006-2010 to 41.2% in 2011-2015. This difference was not statistically significant.
- Decreases over time are likely to be related to how bladder cancer is classified and diagnosed.



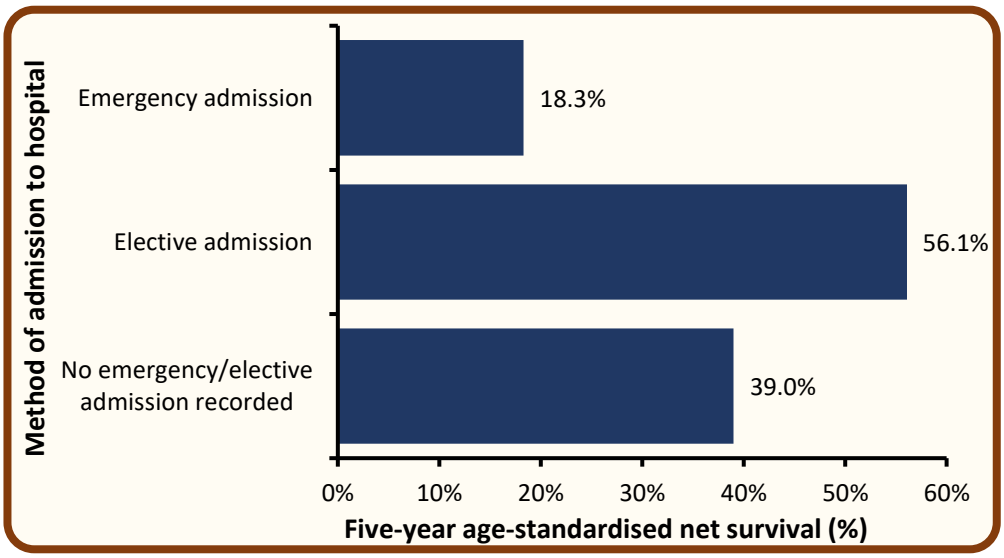
Survival by age at diagnosis - *Bladder cancer, Patients diagnosed in 2011-2015*

- Survival from bladder cancer among patients diagnosed in 2011-2015 varied by age with five-year survival poorer among older people (aged 75 and over). In particular:
- Five-year net survival ranged from 60.1% among patients aged 55 to 64 at diagnosis to 31.7% among those aged 75 and over.
- Five-year net survival among patients aged 75 and over was 35.4% for men and 24.2% for women.



Survival by method of most recent admission to hospital - *Bladder cancer, Patients diagnosed in 2011-2015*

- Five-year survival (ASNS) among bladder cancer patients who had an emergency admission to hospital up to 30 days prior to their cancer diagnosis was 18.3% compared to 56.1% among those with elective admissions and 39.0% among those who had no hospital admissions recorded up to 30 days prior to diagnosis.

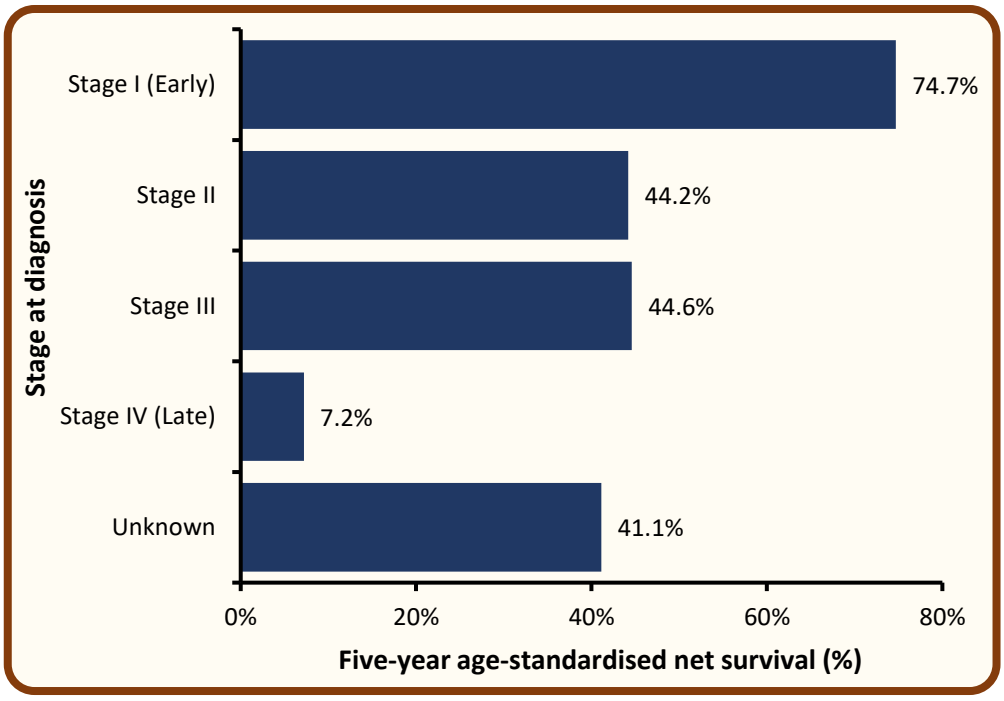


Survival by stage at diagnosis - *Bladder cancer, Patients diagnosed in 2011-2015*

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

▪ Five-year survival (ASNS) ranged from 74.7% for early stage (stage I) disease to 7.2% for late stage (stage IV) disease.

▪ Five-year survival (ASNS) for unstaged cancer was 41.1%.



Prevalence

▪ At the end of 2020, there were 1,395 people (Males: 1,050; Females: 345) living with bladder cancer who had been diagnosed with the disease during 1996-2020.

▪ Of these, 75.3% were male, 54.3% were aged 75 and over, and 12.1% 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	67	27	94	57	18	75	124	45	169
1-5 years	162	57	219	187	48	235	349	105	454
5-10 years	96	37	133	116	42	158	212	79	291
10-25 years	151	40	191	214	76	290	365	116	481
0-25 years	476	161	637	574	184	758	1,050	345	1,395

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

▪ Among males the number of survivors from bladder cancer who had been diagnosed within the previous ten years decreased by 0.1% from 686 survivors in 2015 to 685 survivors in 2020.

▪ Among females the number of survivors from bladder cancer who had been diagnosed within the previous ten years increased by 5.5% from 217 survivors in 2015 to 229 survivors in 2020.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	713	710	687	694	686	667	684	680	688	685
Female	232	228	228	206	217	223	228	226	222	229
Both sexes	945	938	915	900	903	890	912	906	910	914

Mortality

- During 2016-2020 there were 92 male and 42 female deaths from bladder cancer each year.
- Bladder cancer made up 3.9% of all male, and 2.0% of all female cancer deaths (ex NMSC).

Deaths by age at death - *Bladder cancer, Deaths in 2016-2020*

- The median age at death during 2016-2020 was 80 for men and 83 for women.
- Risk of death from bladder cancer was strongly related to age, with 68.5% of men and 73.8% of women aged 75 years or more at time of death.
- 4.5% of bladder cancer deaths occurred among those aged under 55.

Age at death	Average deaths per year		
	Male	Female	Both sexes
0 - 54	3	2	6
55 - 64	7	2	9
65 - 74	19	5	24
75 +	63	31	94
All ages	92	42	133

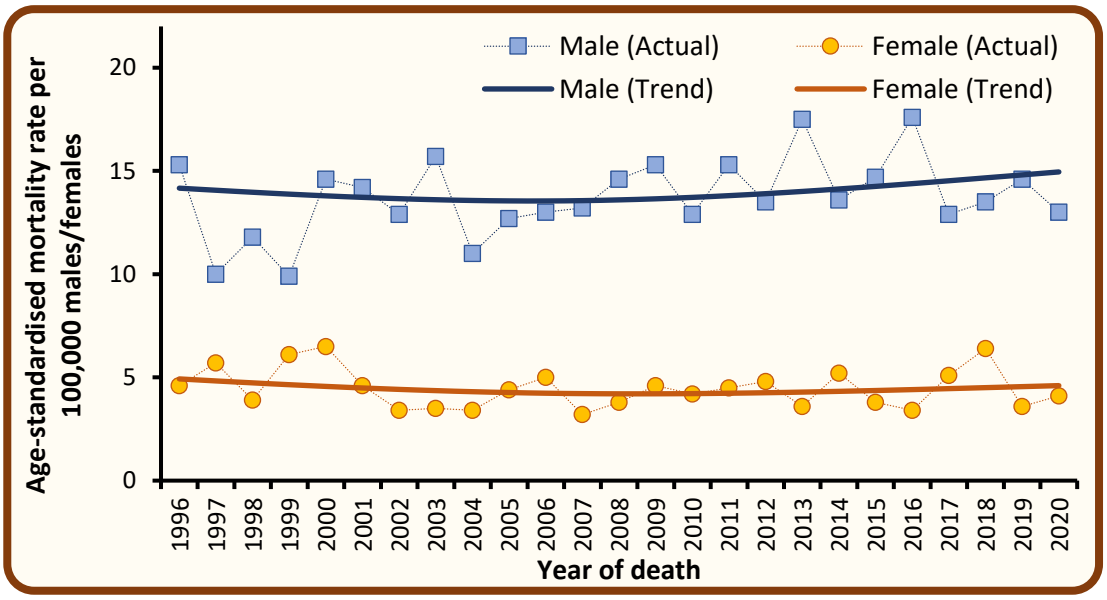
Deaths by year of death - *Bladder cancer, Deaths in 2011-2020*

- Among males the number of deaths from bladder cancer increased by 10.8% from an annual average of 83 deaths in 2011-2015 to 92 deaths in 2016-2020.
- Among females the number of deaths from bladder cancer increased by 13.5% from an annual average of 37 deaths in 2011-2015 to 42 deaths in 2016-2020.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	78	77	99	76	86	104	84	86	94	90
Female	35	40	31	45	34	30	47	58	35	39
Both sexes	113	117	130	121	120	134	131	144	129	129

Trends in age-standardised mortality rates - *Bladder cancer, Deaths in 1996-2020*

- Among males age-standardised bladder cancer mortality rates decreased by 4.0% from 14.9 per 100,000 person years in 2011-2015 to 14.3 per 100,000 persons years in 2016-2020. This difference was not statistically significant.
- Among females age-standardised bladder cancer mortality rates increased by 2.3% from 4.4 per 100,000 person years in 2011-2015 to 4.5 cases per 100,000 persons years in 2016-2020. 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 first 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.