

# Pancreatic cancer

Patients diagnosed 1993-2020  
(ICD10: C25)

## Further information

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Further data is available at: [www.qub.ac.uk/research-centres/nicr](http://www.qub.ac.uk/research-centres/nicr)

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## Acknowledgements

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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:

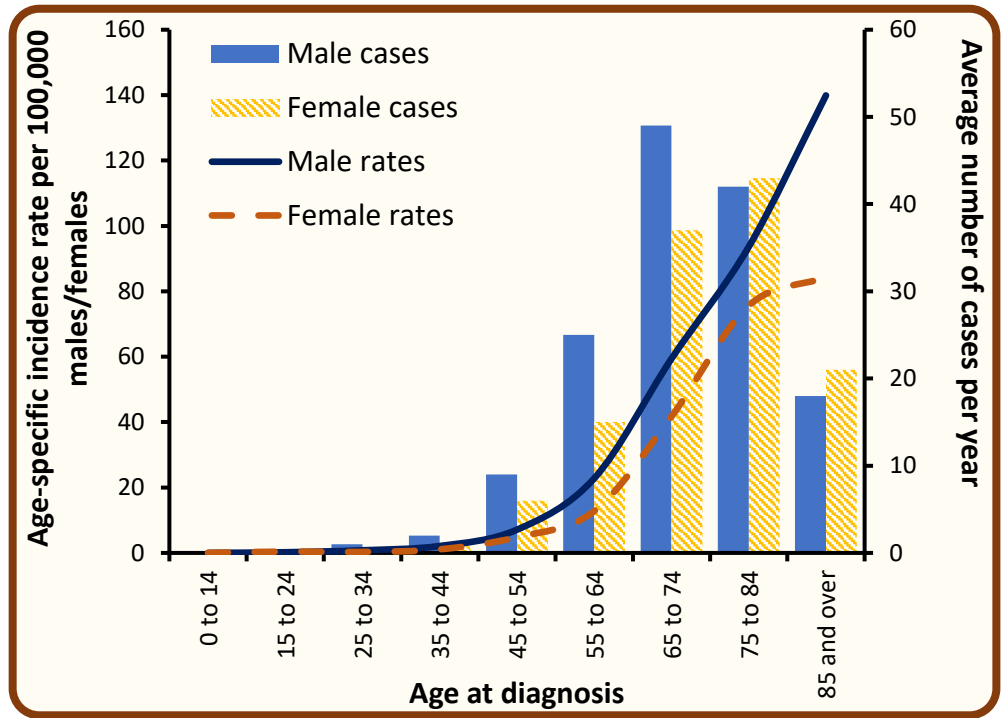
- There were 147 male and 123 female cases of pancreatic cancer diagnosed each year.
- The risk of developing pancreatic cancer before the age of 75 was 1 in 107 for men and 1 in 163 for women, while before the age of 85 the risk was 1 in 53 for men and 1 in 72 for women.

## Incidence by age at diagnosis - Pancreatic cancer, Cases in 2016-2020

During 2016-2020:

- The median age at diagnosis was 72 for men and 75 for women.
- Cancer risk increased with age, with 40.8% of men and 52.0% of women aged 75 years or more at diagnosis.
- 7.8% of cases were diagnosed among those aged under 55.

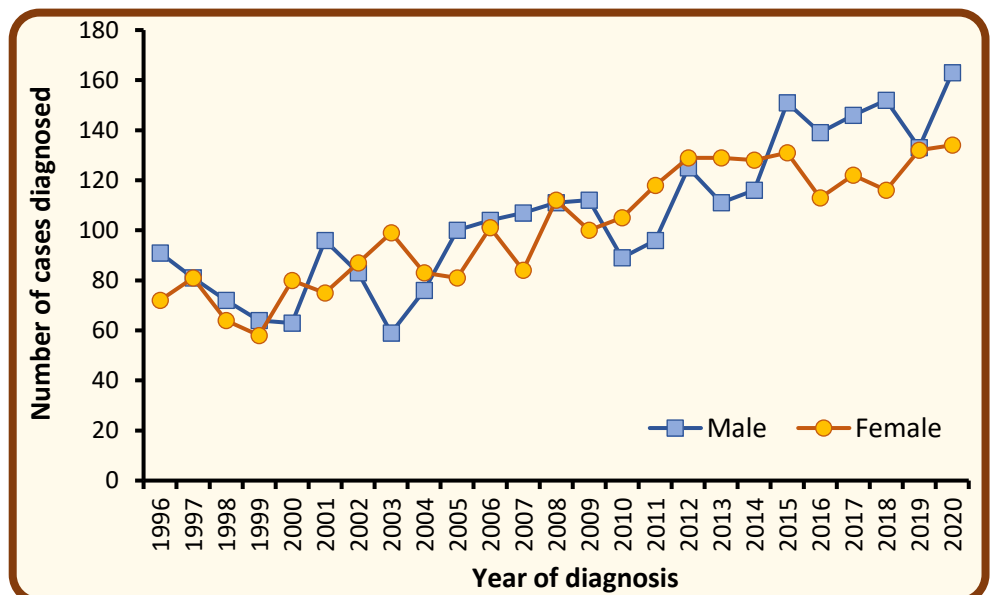
Age at diagnosis	Average cases per year		
	Male	Female	Both sexes
0 - 54	12	7	21
54 - 64	25	15	40
65 - 74	49	37	85
75 +	60	64	124
<b>All ages</b>	<b>147</b>	<b>123</b>	<b>270</b>



## Incidence by year of diagnosis - Pancreatic cancer, Cases in 1996-2020

- Among males the number of cases of pancreatic cancer increased by 22.5% from an annual average of 120 cases in 2011-2015 to 147 cases in 2016-2020.
- Among females the number of cases of pancreatic cancer decreased by 3.1% from an annual average of 127 cases in 2011-2015 to 123 cases in 2016-2020.

Year of diagnosis	Male	Female	Both sexes
2011	96	118	214
2012	125	129	254
2013	111	129	240
2014	116	128	244
2015	151	131	282
2016	139	113	252
2017	146	122	268
2018	152	116	268
2019	133	132	265
2020	163	134	297

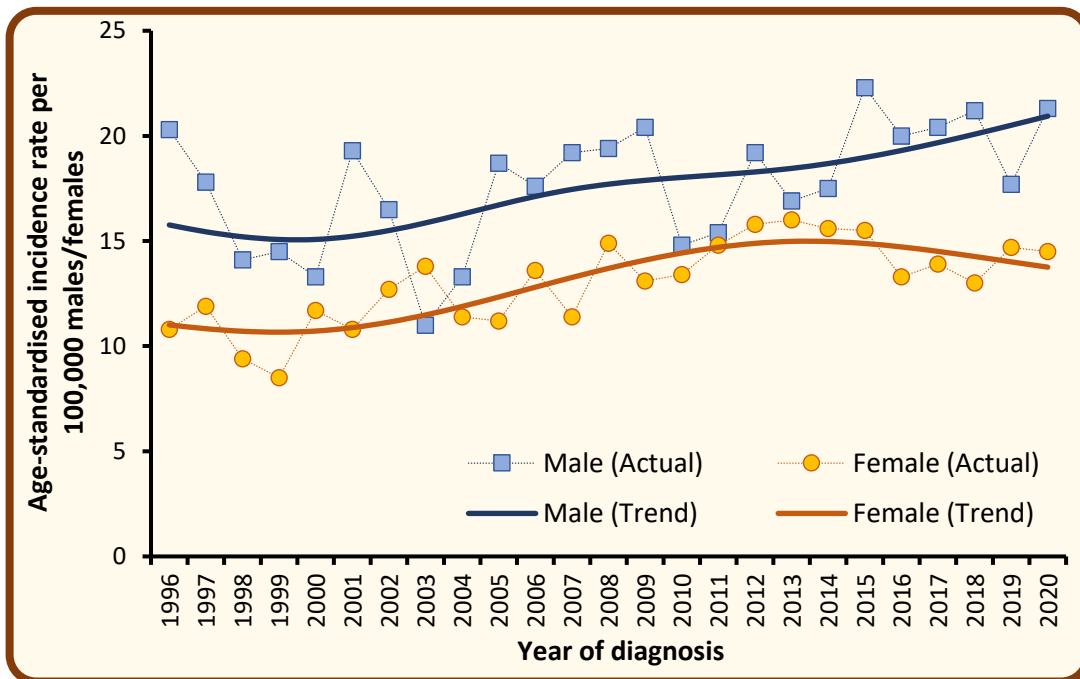


Note: Annual averages have been rounded to the nearest integer. Sums of numbers in table rows or columns may thus differ slightly from the given total.

NMSC: Non-melanoma skin cancer

## Trends in age-standardised incidence rates - Pancreatic cancer, Cases in 1996-2020

- Among males age-standardised incidence rates of pancreatic cancer increased by 9.8% from 18.3 per 100,000 person years in 2011-2015 to 20.1 cases per 100,000 persons years in 2016-2020. This difference was not statistically significant.
- Among females age-standardised incidence rates of pancreatic cancer decreased by 10.3% from 15.5 per 100,000 person years in 2011-2015 to 13.9 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 - Pancreatic 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:

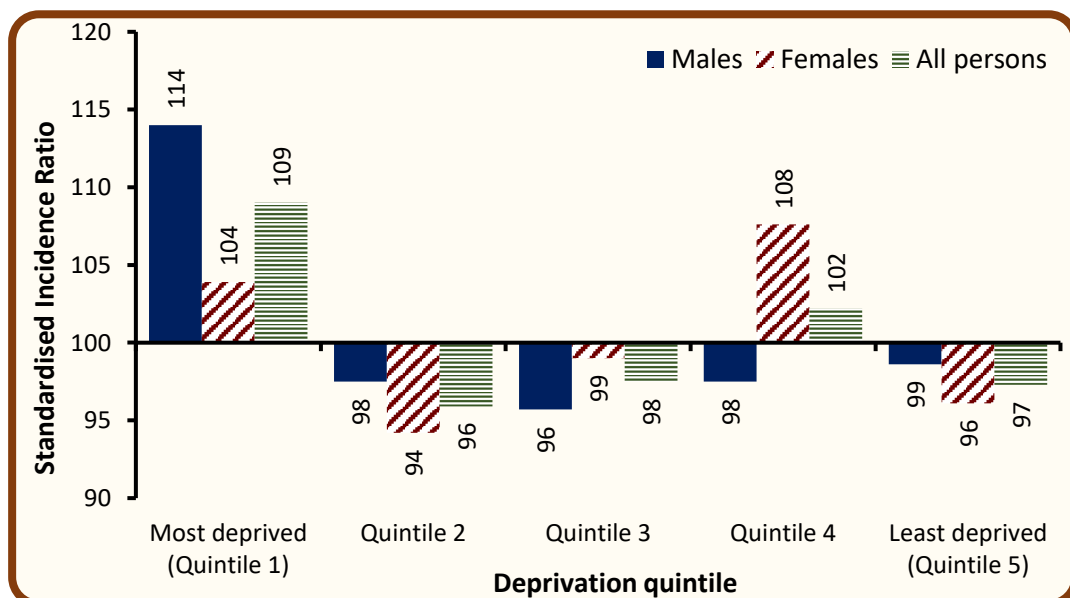
- in the least socio-economically deprived areas did not vary significantly from the NI average.
- in the most socio-economically deprived areas did not vary significantly from the NI average.

Deprivation quintile	Average cases per year		
	Male	Female	Both sexes
Most deprived (Quintile 1)	27	21	48
Quintile 2	28	23	52
Quintile 3	30	25	55
Quintile 4	31	28	58
Least deprived (Quintile 5)	31	26	57
<b>Northern Ireland</b>	<b>147</b>	<b>123</b>	<b>270</b>

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.



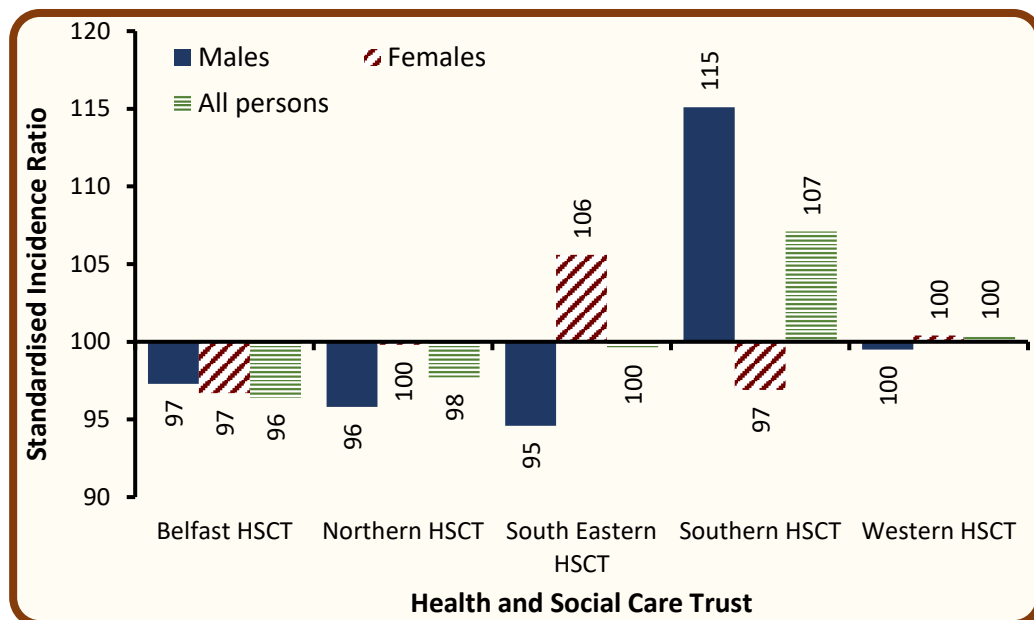
## Incidence by Health and Social Care Trust (HSCT) - Pancreatic cancer, Cases in 2016-2020

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	25	23	48
Northern HSCT	38	33	70
South Eastern HSCT	29	28	57
Southern HSCT	32	22	53
Western HSCT	23	18	42
<b>Northern Ireland</b>	<b>147</b>	<b>123</b>	<b>270</b>



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.

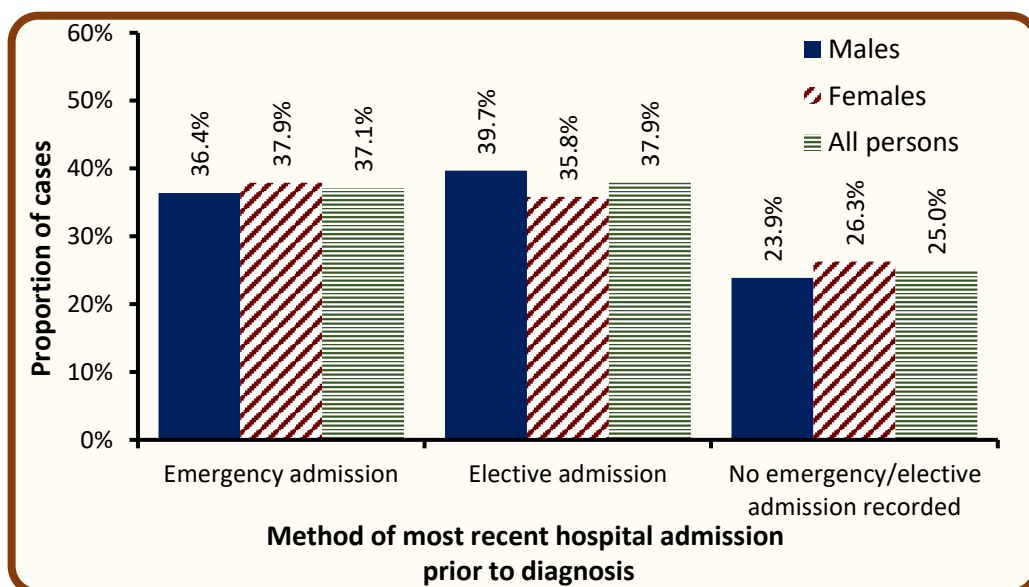
Data for Local Government Districts and Parliamentary Constituencies are available at [www.qub.ac.uk/research-centres/nicr](http://www.qub.ac.uk/research-centres/nicr)

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

During 2016-2020:

- 37.1% of cases had an emergency admission to hospital recorded up to 30 days prior to their cancer diagnosis.
- 36.4% of male cases had an emergency admission up to 30 days prior to diagnosis, compared to 37.9% of female cases.
- In 25.0% 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	53	47	100
Elective admission	58	44	102
No emergency/elective admission recorded	35	32	67
<b>Total</b>	<b>147</b>	<b>123</b>	<b>270</b>



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.

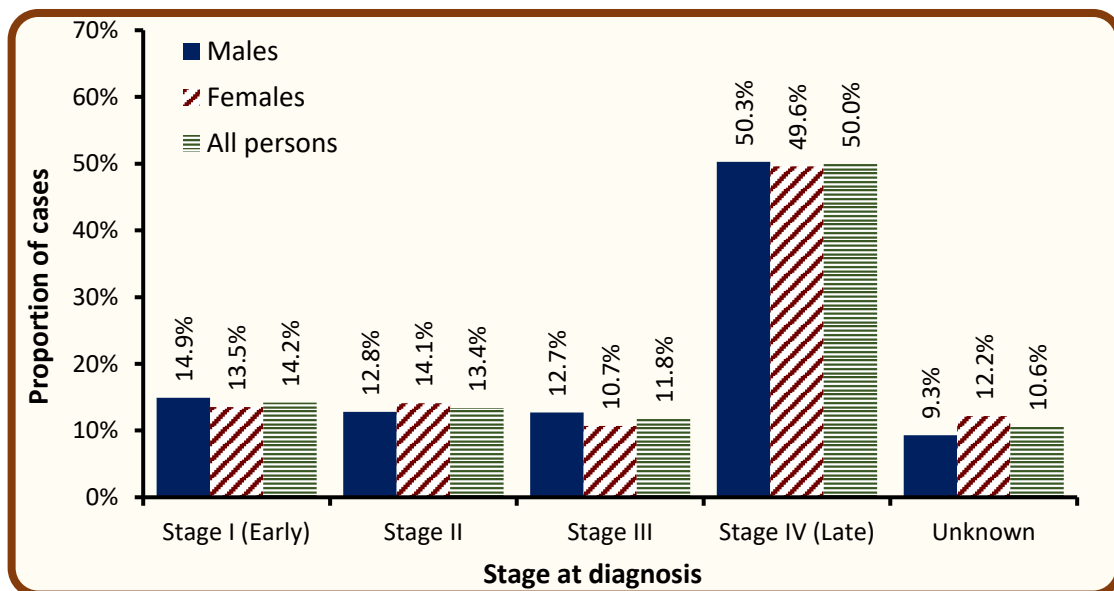
The majority of patients with no inpatient admission recorded prior to diagnosis are likely to have been diagnosed via an outpatient route.

## Incidence by stage at diagnosis - Pancreatic cancer, Cases in 2016-2020

During 2016-2020:

- 89.4% of cases diagnosed had a stage assigned.
- 14.2% of cases were diagnosed at stage I. (15.9% of staged cases)
- 50.0% of cases were diagnosed at stage IV. (55.9% of staged cases)
- Among cases which were staged, 55.5% of male cases were diagnosed at stage IV, compared to 56.5% of female cases.

Stage at diagnosis	Average cases per year		
	Male	Female	Both sexes
Stage I (Early)	22	17	38
Stage II	19	17	36
Stage III	19	13	32
Stage IV (Late)	74	61	135
Unknown	14	15	29
<b>All stages</b>	<b>147</b>	<b>123</b>	<b>270</b>



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).

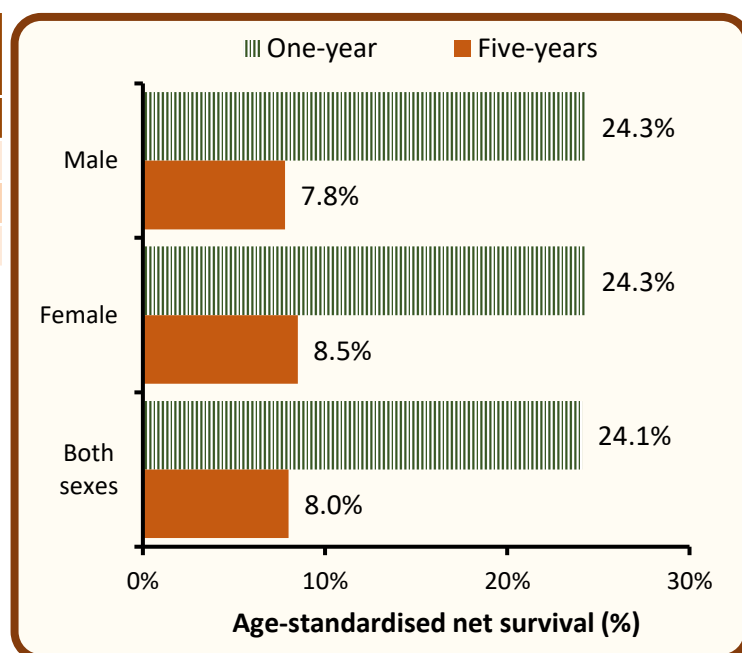
## Survival

- 19.6% of patients were alive one year and 5.1% were alive five years from a pancreatic cancer diagnosis in 2011-2015. (observed survival)
- Age-standardised net survival (ASNS), which removes the effect of deaths from causes unrelated to cancer, was 24.1% one year and 8.0% five years from a pancreatic cancer diagnosis in 2011-2015.
- Five-year survival (ASNS) for pancreatic cancer patients diagnosed in 2011-2015 was 7.8% among men and 8.5% among women.

Gender	Observed survival		Age-standardised net survival	
	One-year	Five-years	One-year	Five-years
Male	21.5%	5.4%	24.3%	7.8%
Female	17.7%	4.8%	24.3%	8.5%
<b>Both sexes</b>	<b>19.6%</b>	<b>5.1%</b>	<b>24.1%</b>	<b>8.0%</b>

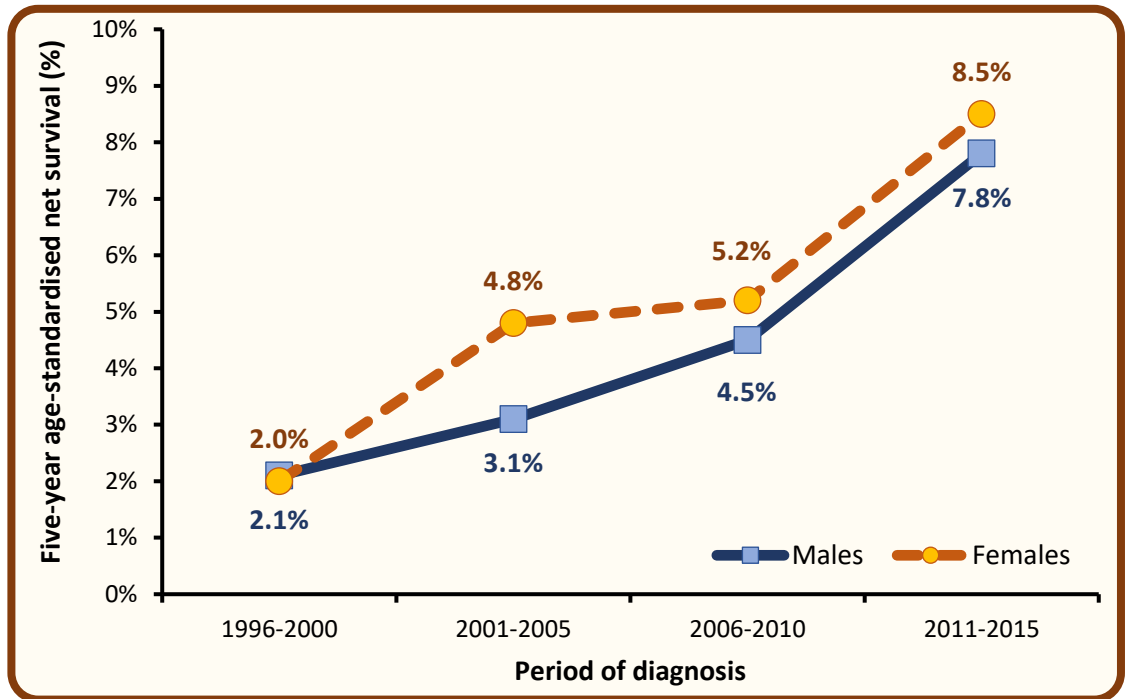
Observed survival is the proportion of patients still alive one/five years after diagnosis. However, in this measure patients may have died from causes unrelated to their cancer.

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.



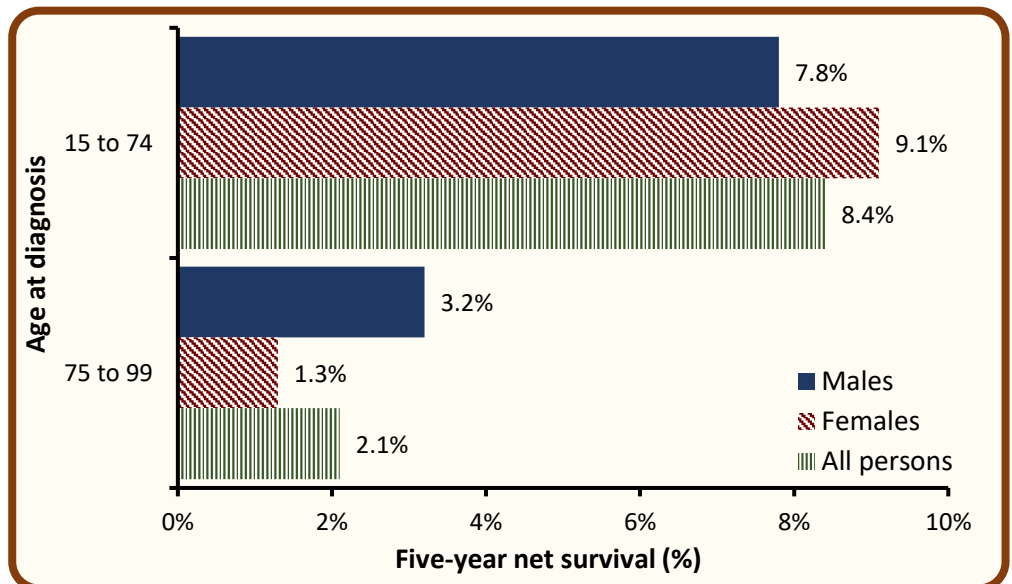
## Trends in survival - Pancreatic cancer, Patients diagnosed in 1996-2015

- Among men five-year survival (ASNS) from pancreatic cancer increased from 4.5% in 2006-2010 to 7.8% in 2011-2015. This difference was not statistically significant.
- Among women five-year survival (ASNS) from pancreatic cancer increased from 5.2% in 2006-2010 to 8.5% in 2011-2015. This difference was not statistically significant.



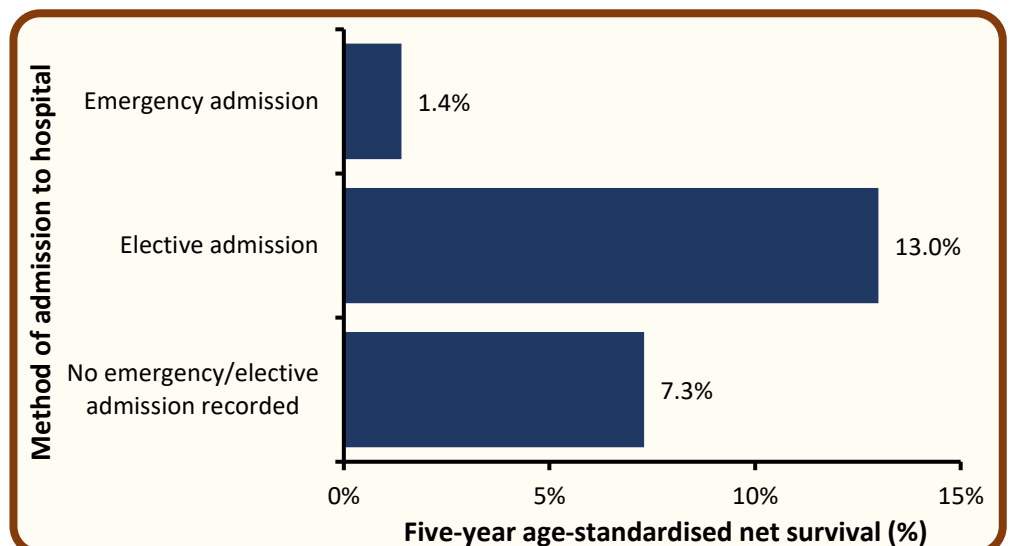
## Survival by age at diagnosis - Pancreatic cancer, Patients diagnosed in 2011-2015

- Survival from pancreatic cancer among patients diagnosed in 2011-2015 was related to patient age with five-year survival higher among younger age groups. In particular:
  - Five-year net survival ranged from 8.4% among patients aged 15 to 74 at diagnosis to 2.1% among those aged 75 and over.
  - Five-year net survival among patients aged 75 and over was 3.2% for men and 1.3% for women.



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

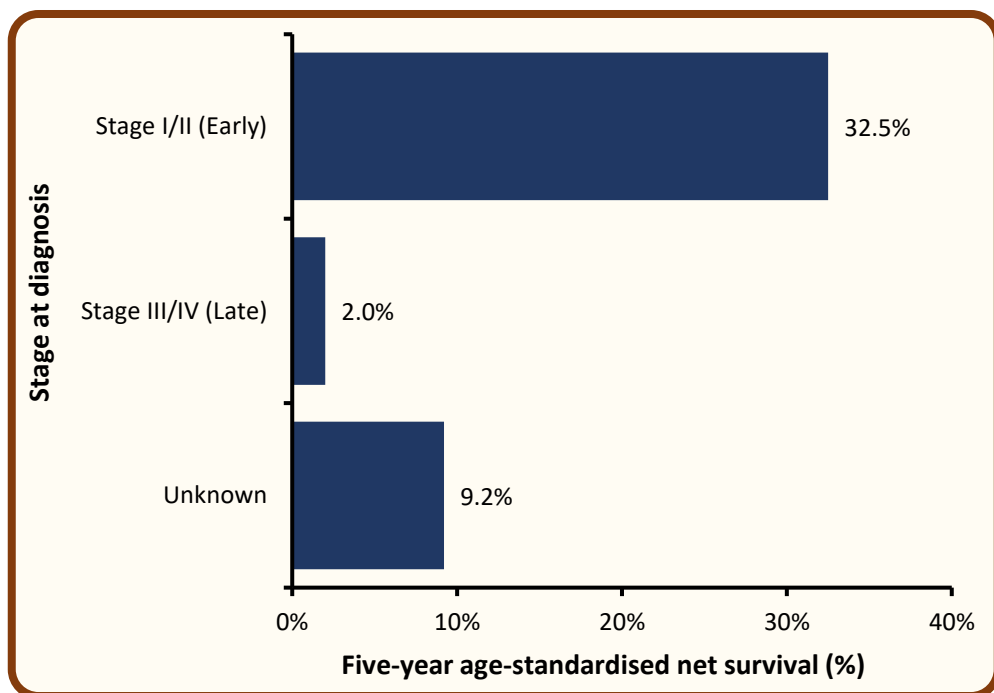
- Five-year survival (ASNS) among pancreatic cancer patients who had an emergency admission to hospital up to 30 days prior to their cancer diagnosis was 1.4% compared to 13.0% among those with elective admissions and 7.3% among those who had no hospital admissions recorded up to 30 days prior to diagnosis.



## Survival by stage at diagnosis - Pancreatic cancer, Patients diagnosed in 2012-2015

- Stage at diagnosis is one of the most important factors in pancreatic cancer survival with five-year survival decreasing as stage increases.
- Five-year survival (ASNS) ranged from 32.5% for early stage (stage I/II) disease to 2.0% for late stage (stage III/IV) disease.
- Five-year survival (ASNS) for unstaged cancer was 9.2%.

Note: Staging information for pancreatic cancer is only available from 2012 onwards



## Prevalence

- At the end of 2020, there were 341 people (Males: 185; Females: 156) living with pancreatic cancer who had been diagnosed with the disease during 1996-2020.
- Of these, 54.3% were male, 34.9% were aged 75 and over, and 36.4% 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	48	30	78	20	26	46	68	56	124
1-5 years	49	41	90	20	14	34	69	55	124
5-25 years	29	25	54	19	20	39	48	45	93
0-25 years	126	96	222	59	60	119	185	156	341

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

- Among males the number of survivors from pancreatic cancer who had been diagnosed within the previous ten years increased by 33.1% from 124 survivors in 2015 to 165 survivors in 2020.
- Among females the number of survivors from pancreatic cancer who had been diagnosed within the previous ten years increased by 16.9% from 118 survivors in 2015 to 138 survivors in 2020.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	77	95	82	102	124	127	132	151	145	165
Female	80	77	86	102	118	110	107	109	133	138
Both sexes	157	172	168	204	242	237	239	260	278	303



## Mortality

- During 2016-2020 there were 130 male and 122 female deaths from pancreatic cancer each year.
- Pancreatic cancer made up 5.6% of all male, and 5.7% of all female cancer deaths (ex NMSC).

### Deaths by age at death - Pancreatic cancer, Deaths in 2016-2020

▪ The median age at death during 2016-2020 was 73 for men and 76 for women.

▪ Risk of death from pancreatic cancer was strongly related to patient age, with 44.6% of men and 56.6% of women aged 75 years or more at time of death.

▪ 6.3% of pancreatic cancer deaths occurred among those aged under 55.

Age at death	Average deaths per year		
	Male	Female	Both sexes
0 - 54	9	6	16
55 - 64	22	14	36
65 - 74	41	33	74
75 +	58	69	126
<b>All ages</b>	<b>130</b>	<b>122</b>	<b>252</b>

### Deaths by year of death - Pancreatic cancer, Deaths in 2011-2020

▪ Among males the number of deaths from pancreatic cancer increased by 25.0% from an annual average of 104 deaths in 2011-2015 to 130 deaths in 2016-2020.

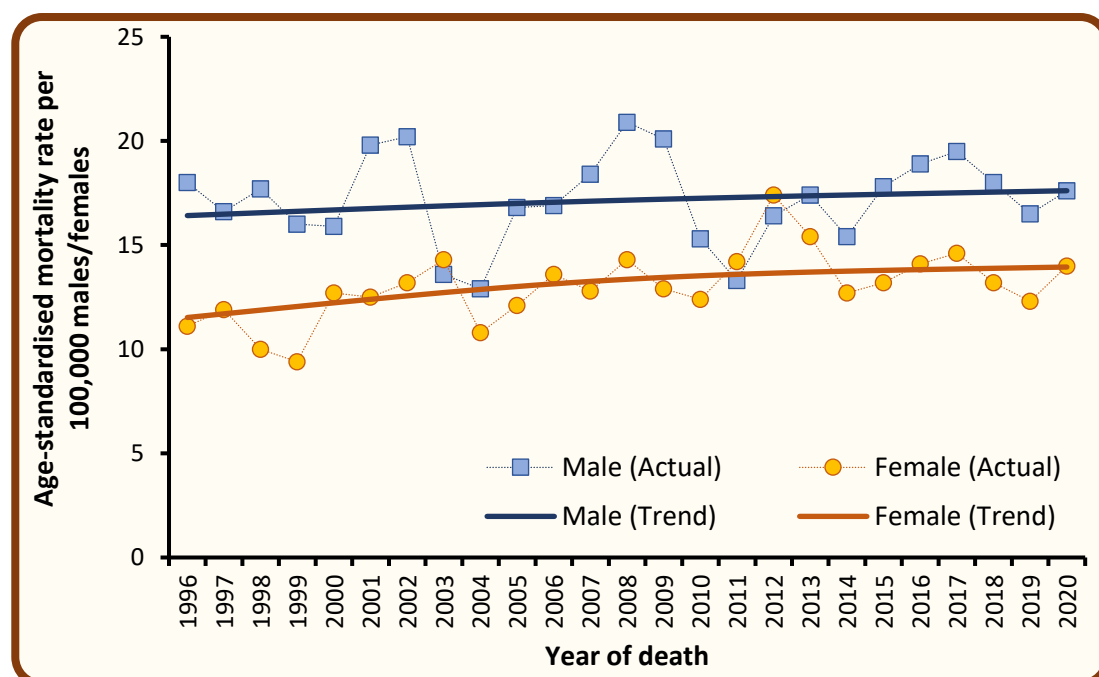
▪ Among females the number of deaths from pancreatic cancer increased by 2.5% from an annual average of 119 deaths in 2011-2015 to 122 deaths in 2016-2020.

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Male</b>	84	103	114	101	118	134	139	124	122	133
<b>Female</b>	113	141	123	107	112	121	127	118	112	130
<b>Both sexes</b>	197	244	237	208	230	255	266	242	234	263

### Trends in age-standardised mortality rates - Pancreatic cancer, Deaths in 1996-2020

▪ Among males age-standardised pancreatic cancer mortality rates increased 12.4% between 2011-2015 and 2016-2020 from 16.1 to 18.1 deaths per 100,000 persons years. This difference was not statistically significant.

▪ Among females age-standardised pancreatic cancer mortality rates decreased 6.2% between 2011-2015 and 2016-2020 from 14.5 to 13.6 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](http://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](http://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](http://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 EUROCORE, 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.