

---

# Pancreatic cancer

1993-2021

(ICD10 codes: C25)

---



**Northern Ireland Cancer Registry, 2024**

**An official statistics publication**

# ABOUT THIS REPORT

## Contents

This report includes information on incidence of pancreatic 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](http://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](http://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. Pancreatic cancer: 1993-2021. Available at: [www.qub.ac.uk/research-centres/nicr](http://www.qub.ac.uk/research-centres/nicr)*

## Further information

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

**Phone:** +44 (0)28 9097 6028      **e-mail:** [nicr@qub.ac.uk](mailto:nicr@qub.ac.uk)

## 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.

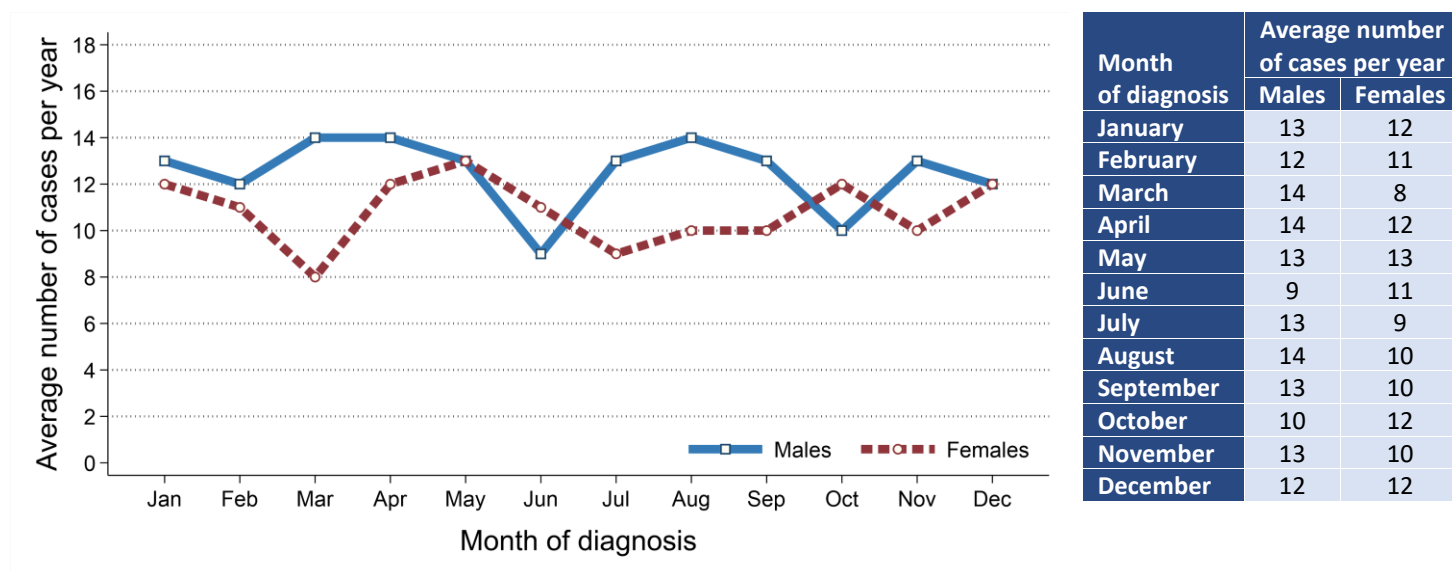
NICR is funded by the Public Health Agency and is based in Queen's University, Belfast.



## INCIDENCE

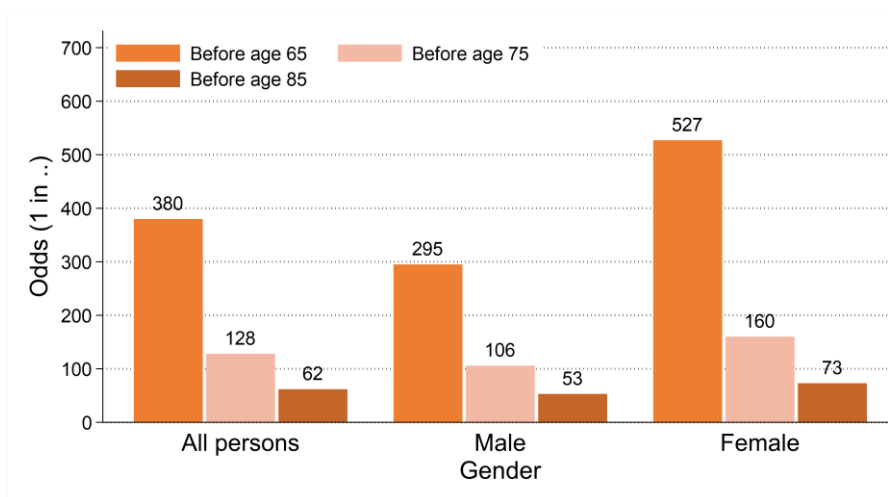
- There were 1,397 cases of pancreatic cancer diagnosed during 2017-2021 in Northern Ireland. On average this was 279 cases per year.
- During this period 46.0% of pancreatic cancer cases were among women (Male cases: 754, Female cases: 643). On average there were 151 male and 129 female cases of pancreatic cancer per year.
- The most common diagnosis month during 2017-2021 was March, April and August among males with 14 cases per year and May among females with 13 cases per year.

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



- Pancreatic cancer made up 2.9% of all male and 2.6% of all female cancer cases (excluding non-melanoma skin cancer).
- The pancreatic cancer incidence rates for each gender were 16.2 cases per 100,000 males and 13.4 cases per 100,000 females.
- The odds of developing pancreatic cancer before age 85 was 1 in 53 for men and 1 in 73 for women.

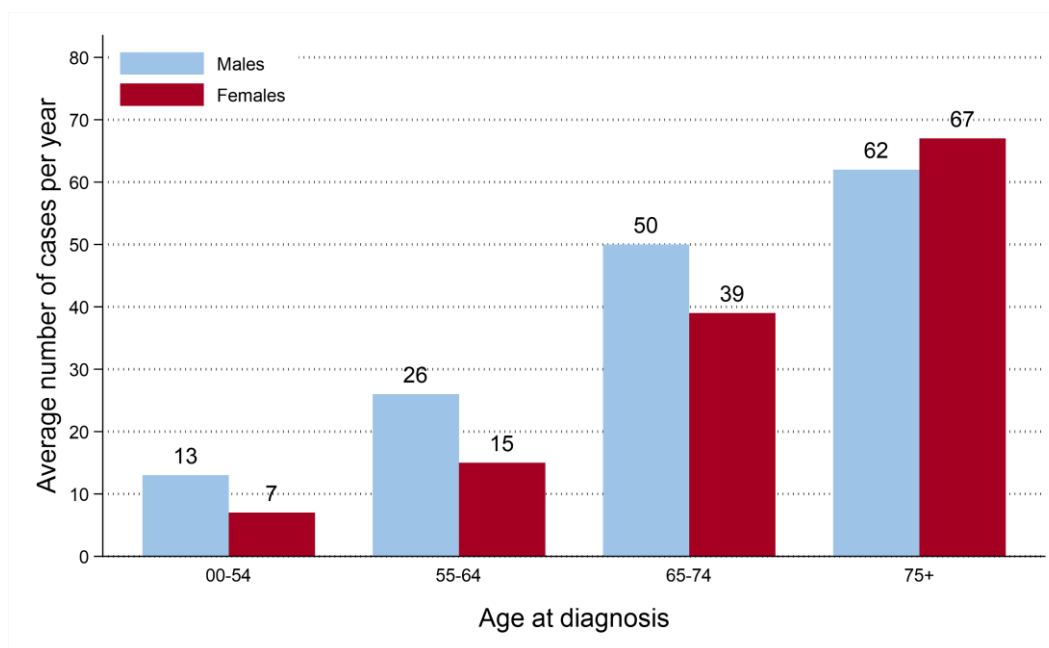
Figure 2: Odds of developing pancreatic cancer in 2017-2021



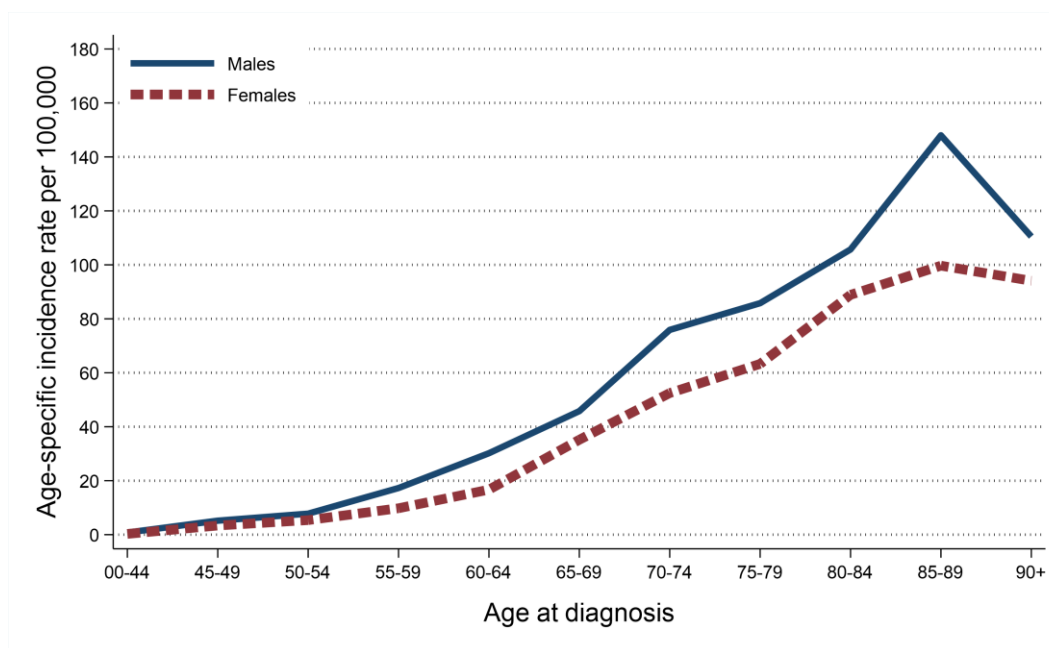
## INCIDENCE BY AGE

- The median age of patients diagnosed with pancreatic cancer during 2017-2021 was 73 years (Males: 72, Females: 75).
- The risk of developing pancreatic cancer varied by age, with 41.1% of men and 52.4% of women diagnosed with pancreatic cancer aged 75 and over at diagnosis.
- In contrast, 7.2% of patients diagnosed with pancreatic cancer were aged 0 to 54 at diagnosis.

*Figure 3: Average number of cases of pancreatic cancer diagnosed per year in 2017-2021 by age at diagnosis*



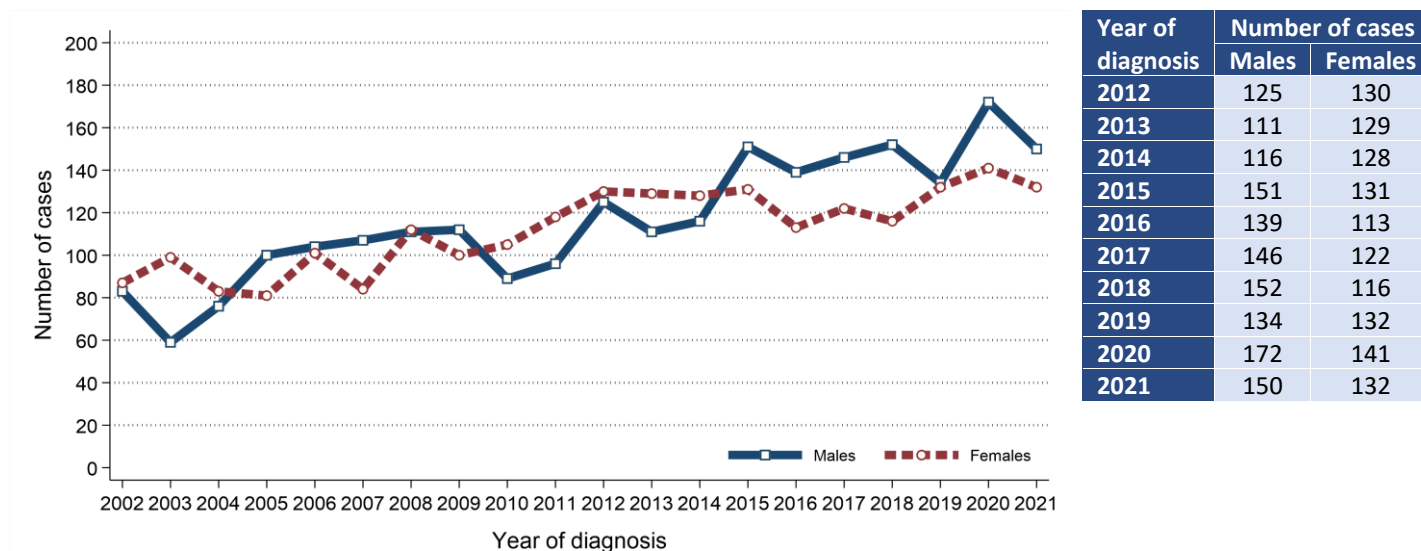
*Figure 4: Age-specific incidence rates of pancreatic cancer in 2017-2021*



## INCIDENCE TRENDS

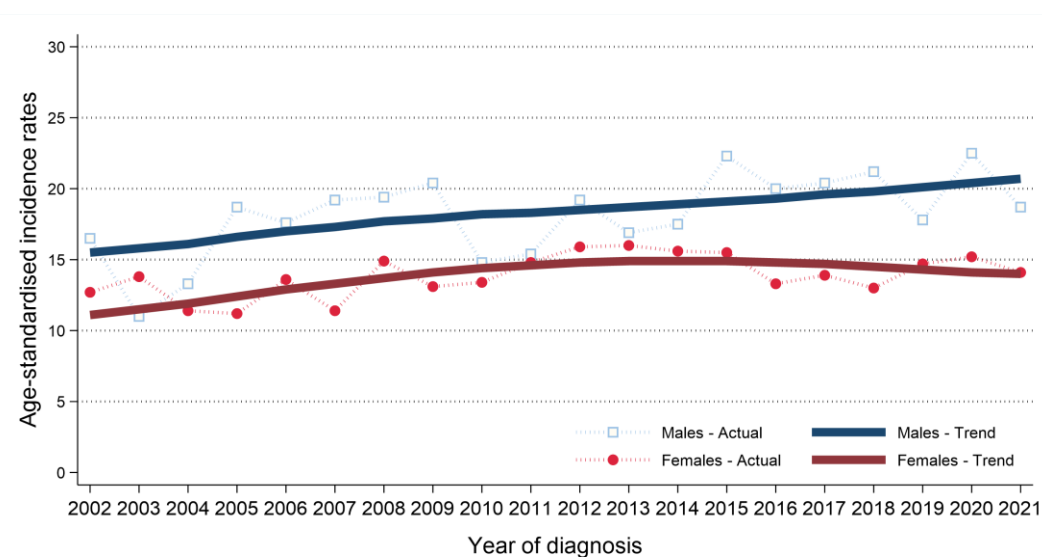
- The number of cases of pancreatic cancer among males increased between 2012-2016 and 2017-2021 by 17.4% from 642 cases (128 cases per year) to 754 cases (151 cases per year).
- The number of cases of pancreatic cancer among females increased between 2012-2016 and 2017-2021 by 1.9% from 631 cases (126 cases per year) to 643 cases (129 cases per year).

Figure 5: Trends in number of cases of pancreatic cancer diagnosed from 2002 to 2021



- Male age-standardised pancreatic cancer incidence rates increased between 2012-2016 and 2017-2021 by 4.7% from 19.2 to 20.1 cases per 100,000 males. This change was not statistically significant.
- Female age-standardised pancreatic cancer incidence rates decreased between 2012-2016 and 2017-2021 by 6.6% from 15.2 to 14.2 cases per 100,000 females. This change was not statistically significant.

Figure 6: Trends in incidence rates of pancreatic cancer 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).

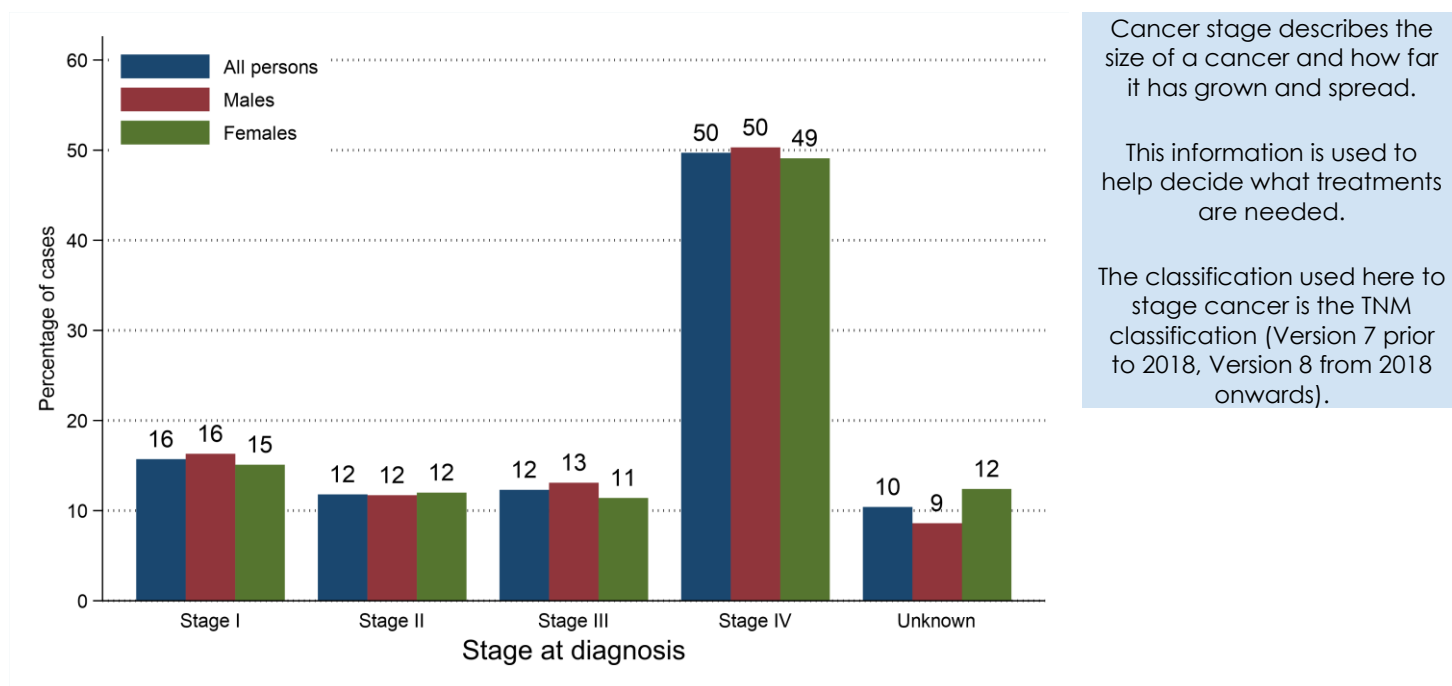
## INCIDENCE BY STAGE AT DIAGNOSIS

- During 2017-2021 89.6% of pancreatic cancer cases had a stage assigned.
- 15.7% of pancreatic cancer cases were diagnosed at Stage I. (17.6% of staged cases)
- 49.7% of pancreatic cancer cases were diagnosed at Stage IV. (55.5% of staged cases)

*Table 1: Number of cases of pancreatic cancer diagnosed in 2017-2021 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	1,397	279	754	151	643	129
Stage I	220	44	123	25	97	19
Stage II	165	33	88	18	77	15
Stage III	172	34	99	20	73	15
Stage IV	695	139	379	76	316	63
Unknown	145	29	65	13	80	16

*Figure 7: Proportion of cases of pancreatic cancer diagnosed in 2017-2021 by stage at diagnosis*



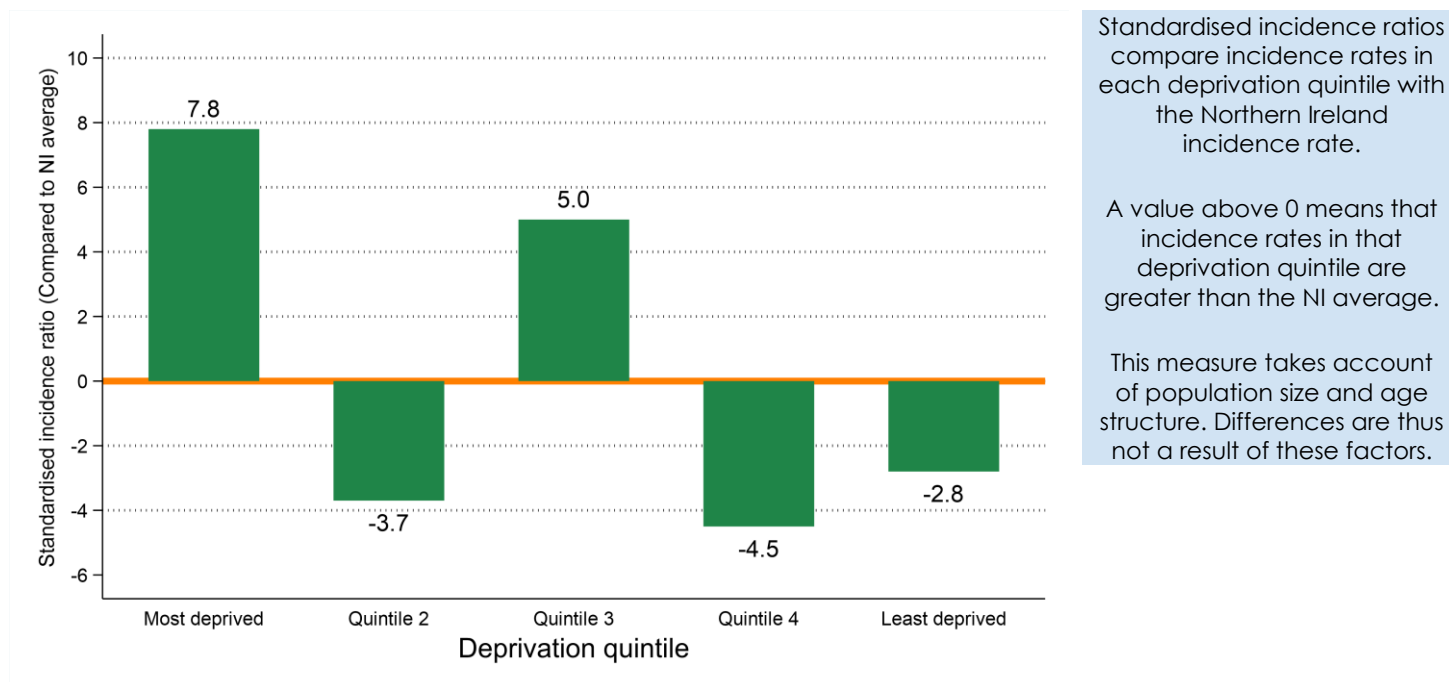
## INCIDENCE BY DEPRIVATION

- The number of cases of pancreatic cancer 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 2: Number of cases of pancreatic cancer 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	1,397	279	754	151	643	129
Most deprived	243	49	132	26	111	22
Quintile 2	269	54	148	30	121	24
Quintile 3	309	62	161	32	148	30
Quintile 4	283	57	152	30	131	26
Least deprived	293	59	161	32	132	26
Unknown	0	0	0	0	0	0

*Figure 8: Standardised incidence ratio comparing deprivation quintile to Northern Ireland for pancreatic cancer diagnosed in 2017-2021*



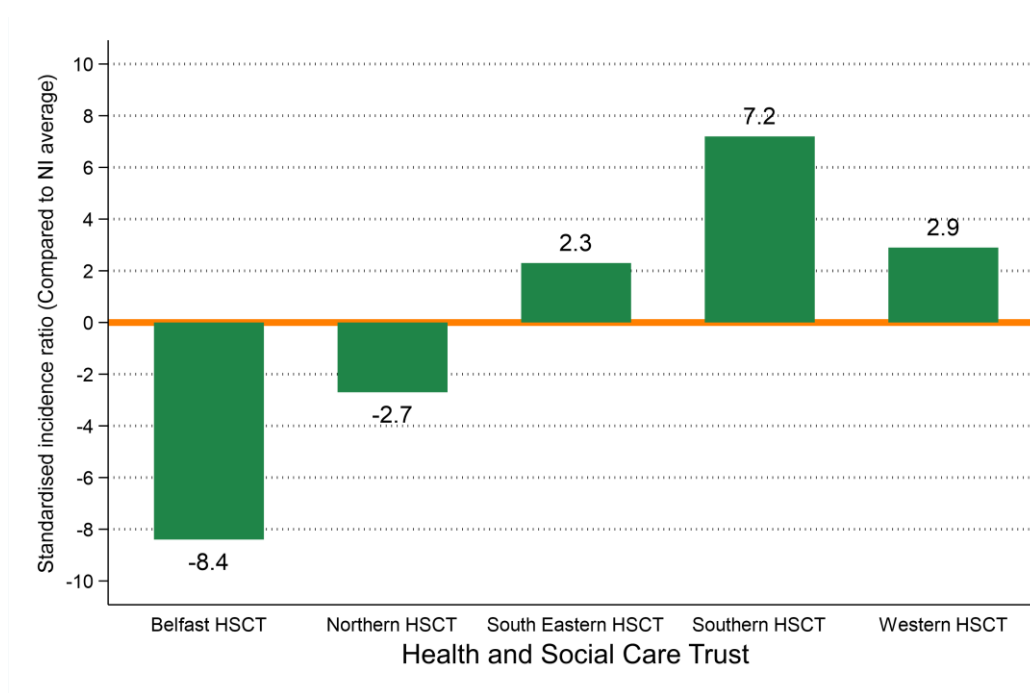
## INCIDENCE BY HEALTH AND SOCIAL CARE TRUST

- The number of cases of pancreatic cancer 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 3: Number of cases of pancreatic cancer 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	1,397	279	754	151	643	129
Belfast HSCT	232	46	116	23	116	23
Northern HSCT	363	73	199	40	164	33
South Eastern HSCT	304	61	153	31	151	30
Southern HSCT	277	55	168	34	109	22
Western HSCT	221	44	118	24	103	21
Unknown	0	0	0	0	0	0

*Figure 9: Standardised incidence ratio comparing Health and Social Care Trust to Northern Ireland for pancreatic cancer diagnosed in 2017-2021*





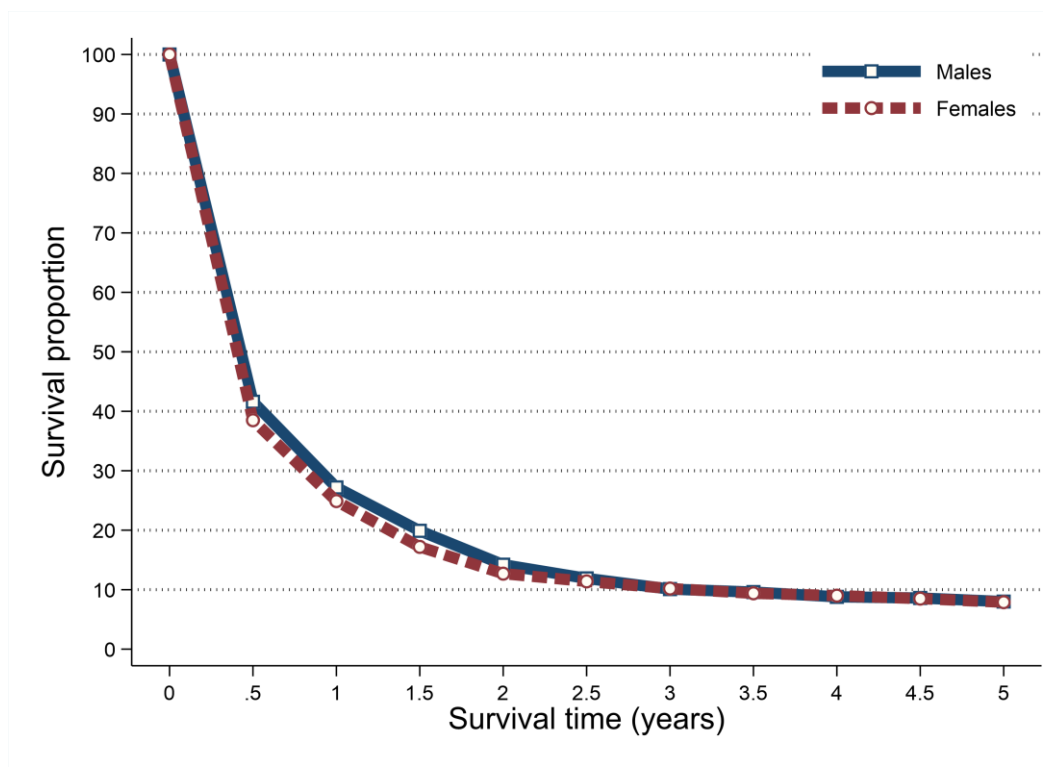
## SURVIVAL

- 21.8% of patients were alive one year and 5.3% were alive five years from a pancreatic cancer diagnosis in 2012-2016. (observed survival)
- Age-standardised net survival (ASNS), which removes the effect of deaths from causes unrelated to cancer, was 25.9% one year and 7.9% five years from a pancreatic cancer diagnosis in 2012-2016.
- Five-year survival (ASNS) for pancreatic cancer patients diagnosed in 2012-2016 was 8.0% among men and 7.9% among women.

*Table 4: Survival from pancreatic cancer 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	34.9%	39.9%	38.3%	41.6%	31.5%	38.5%
One year	21.8%	25.9%	24.4%	27.2%	19.2%	24.9%
Two years	10.6%	13.2%	12.1%	14.2%	9.1%	12.7%
Five years	5.3%	7.9%	5.8%	8.0%	4.8%	7.9%

*Figure 10: Age-standardised net survival from pancreatic cancer 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.

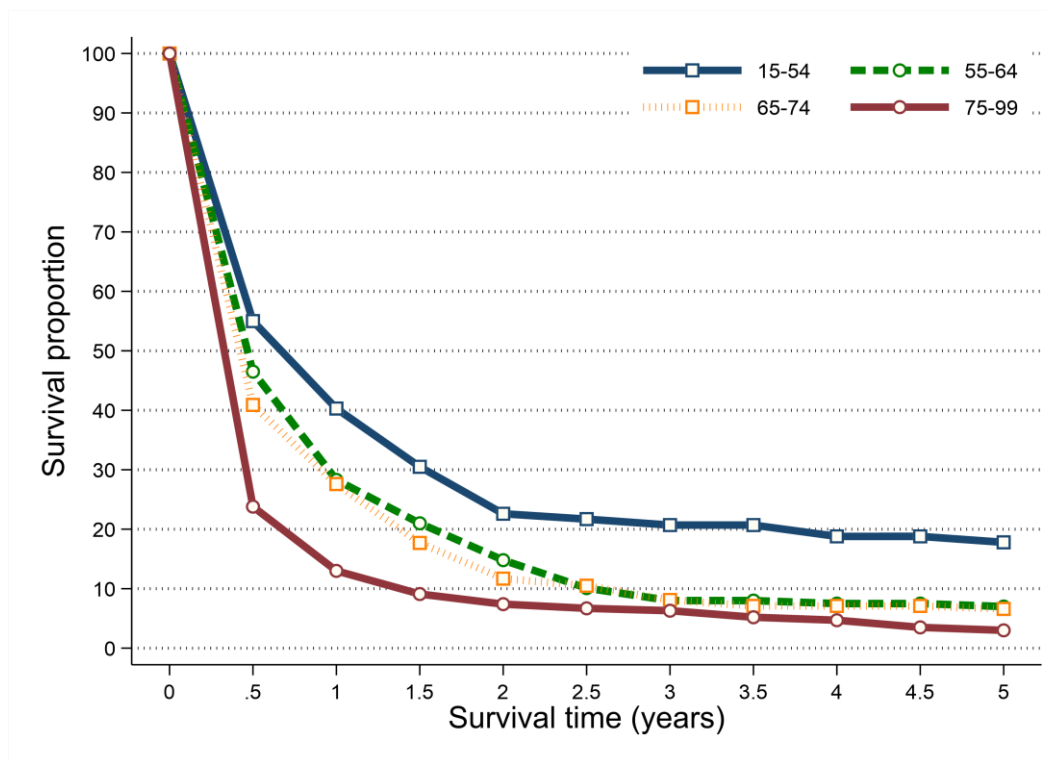
# SURVIVAL BY AGE

- Survival from pancreatic cancer 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 17.8% among patients aged 15 to 54 at diagnosis to 3.0% among those aged 75 to 99.

Table 5: Net survival from pancreatic cancer for patients diagnosed in 2012-2016 by age at diagnosis

Age group	All persons	
	One-year	Five-years
15 to 54	40.3%	17.8%
55 to 64	28.3%	7.0%
65 to 74	27.6%	6.6%
75 to 99	13.0%	3.0%

Figure 11: Net survival from pancreatic cancer for patients diagnosed in 2012-2016 by age at diagnosis

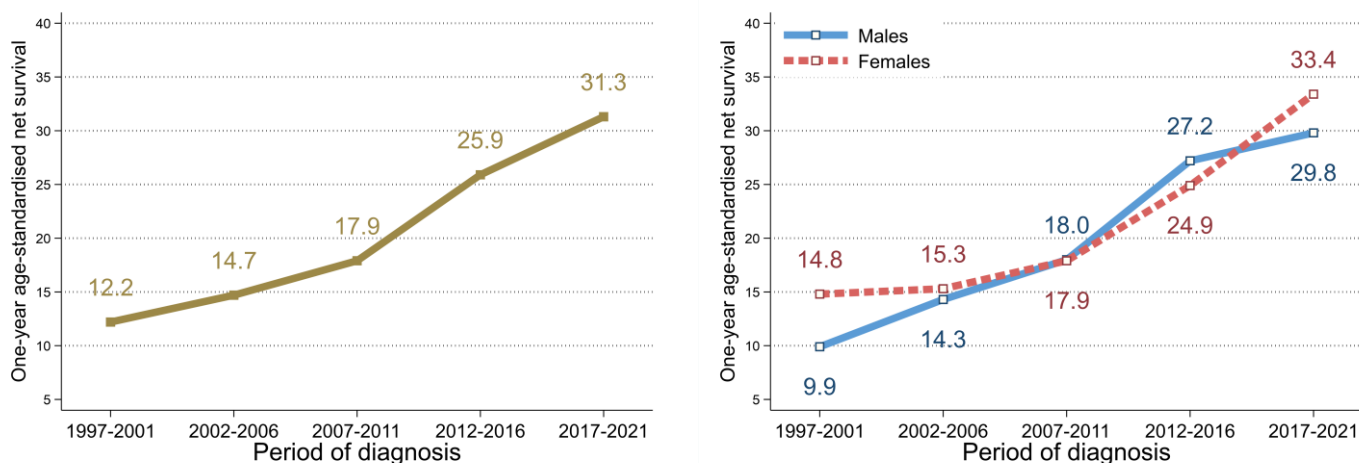


# SURVIVAL TRENDS

## ONE-YEAR NET SURVIVAL

- Between 2012-2016 and 2017-2021 there was no significant change in one-year survival (ASNS) from pancreatic cancer. However, there was a significant increase between the two time periods for females (24.9% to 33.4%) but not males.
- Compared to 1997-2001 one-year survival (ASNS) from pancreatic cancer in 2017-2021 increased significantly from 12.2% to 31.3%. This increase was significant for males (9.9% to 29.8%) and females (14.8% to 33.4%).

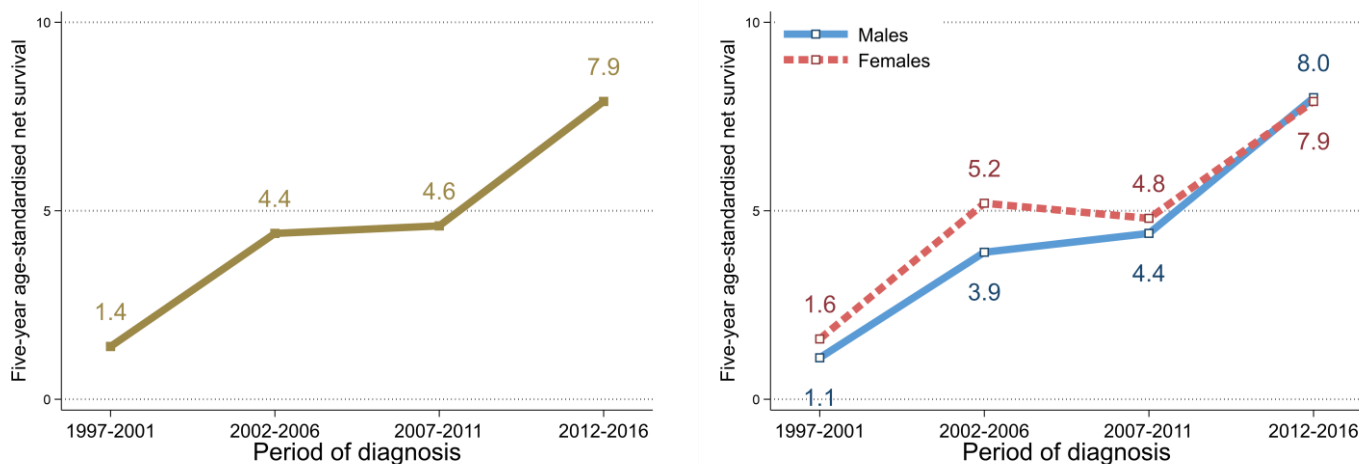
Figure 12: Trends in one-year age-standardised net survival from pancreatic cancer in 1997-2021



## FIVE-YEAR NET SURVIVAL

- Between 2007-2011 and 2012-2016 there was no significant change in five-year survival (ASNS) from pancreatic cancer.
- Compared to 1997-2001 five-year survival (ASNS) from pancreatic cancer in 2012-2016 increased significantly from 1.4% to 7.9%. This increase was significant for males (1.1% to 8.0%) and females (1.6% to 7.9%).

Figure 13: Trends in five-year age-standardised net survival from pancreatic cancer in 1997-2016



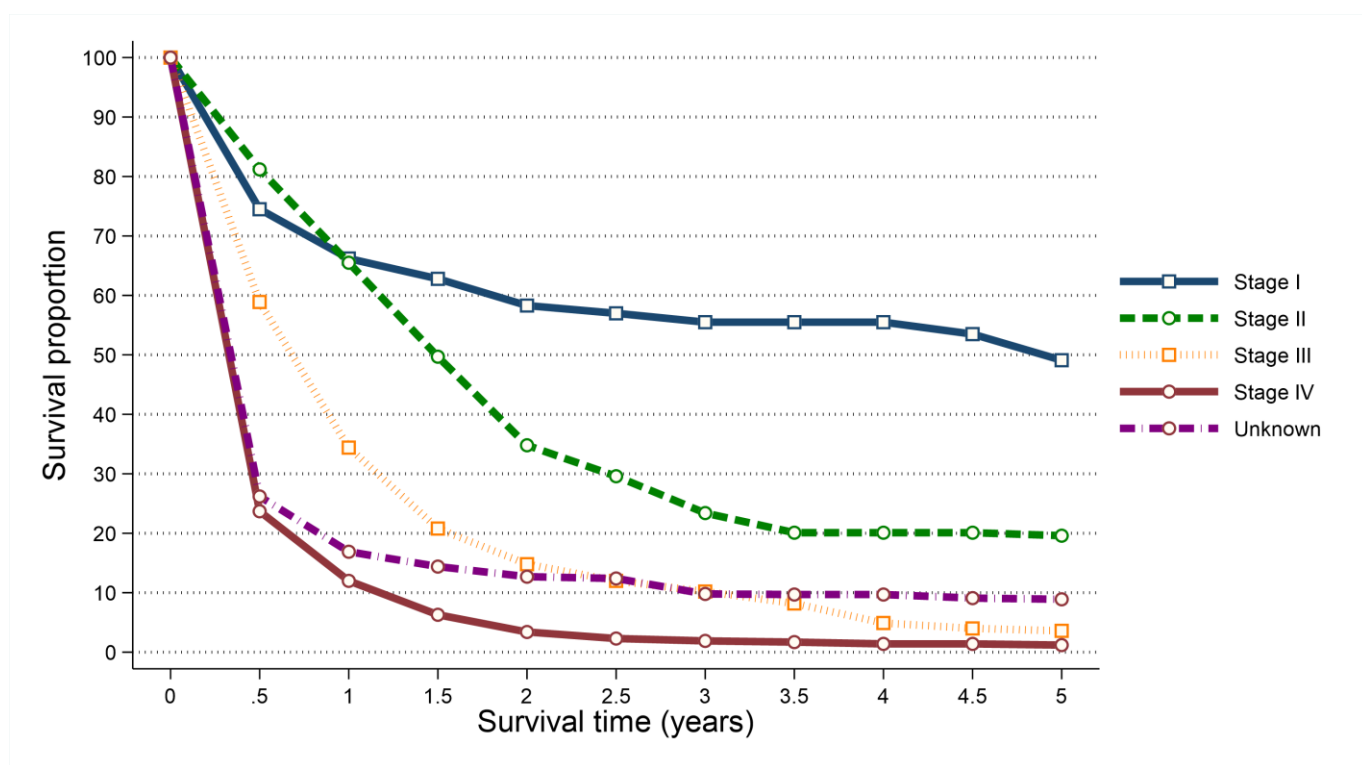
## SURVIVAL BY STAGE

- Survival from pancreatic cancer among patients diagnosed during 2012-2016 was strongly related to stage with better five-year survival among those diagnosed at earlier stages.
- Five-year survival (ASNS) ranged from 49.1% among patients diagnosed at Stage I to 1.2% among those diagnosed at Stage IV.

*Table 6: Age-standardised net survival from pancreatic cancer for patients diagnosed in 2012-2016 by stage at diagnosis*

Stage at diagnosis	All persons	
	One-year	Five-years
Stage I	66.2%	49.1%
Stage II	65.5%	19.6%
Stage III	34.4%	3.6%
Stage IV	12.0%	1.2%
Unknown	16.9%	8.9%

*Figure 14: Age-standardised net survival from pancreatic cancer for patients diagnosed in 2012-2016 by stage at diagnosis*



## PREVALENCE

- At the end of 2021, there were 360 people (Males: 195; Females: 165) living with pancreatic cancer who had been diagnosed with the disease during 1997-2021.
- Of these 35.6% had been diagnosed in the previous year (one-year prevalence) and 89.2% in the previous 10 years (ten-year prevalence).
- 33.9% of pancreatic cancer survivors were aged 75 and over at the end of 2021.

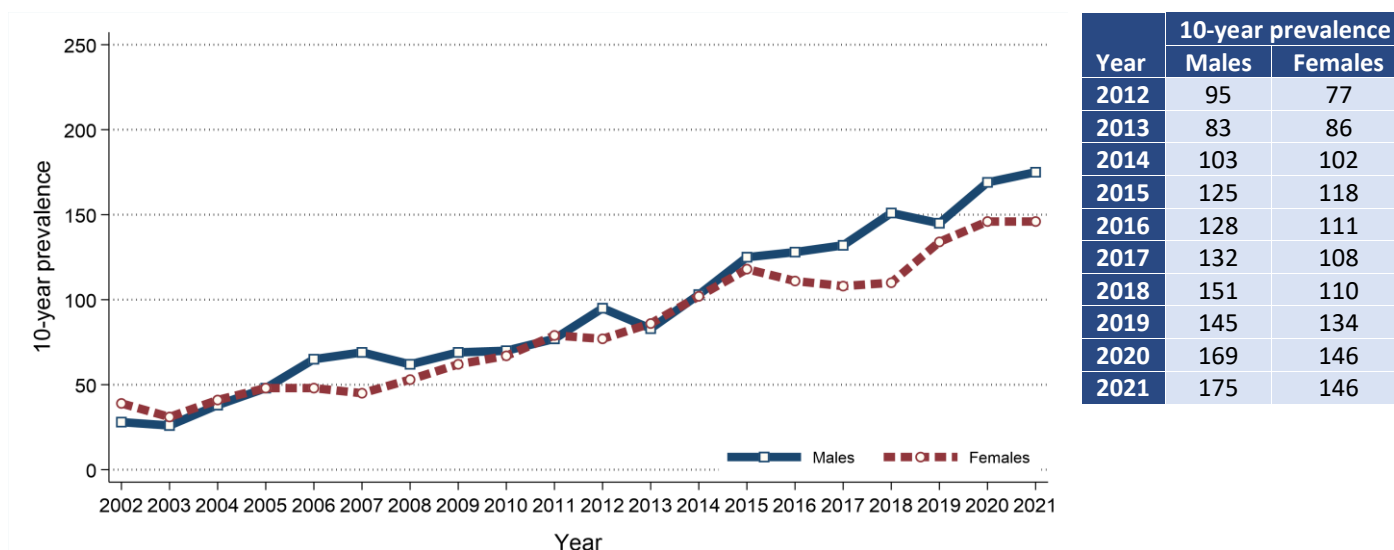
Table 7: 25-year prevalence of pancreatic cancer by age at end of 2021

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	360	128	142	51	39
	0 to 74	238	91	96	32	19
	75 and over	122	37	46	19	20
Male	All ages	195	73	76	26	20
	0 to 74	134	54	51	18	11
	75 and over	61	19	25	8	9
Female	All ages	165	55	66	25	19
	0 to 74	104	37	45	14	8
	75 and over	61	18	21	11	11

## PREVALENCE TRENDS

- 10-year prevalence of pancreatic cancer among males increased between 2016 and 2021 by 36.7% from 128 survivors to 175 survivors.
- 10-year prevalence of pancreatic cancer among females increased between 2016 and 2021 by 31.5% from 111 survivors to 146 survivors.

Figure 15: Trends in 10-year prevalence of pancreatic cancer in 2002-2021



## MORTALITY

- There were 1,267 deaths from pancreatic cancer during 2017-2021 in Northern Ireland. On average this was 253 deaths per year.
- During this period 48.6% of pancreatic cancer deaths were among women (Male deaths: 651, Female deaths: 616). On average there were 130 male and 123 female deaths from pancreatic cancer per year.
- Pancreatic cancer deaths made up 5.5% of all male cancer deaths and 5.7% of all female cancer deaths.
- The median age of patients who died from pancreatic cancer during 2017-2021 was 75 years (Males: 73, Females: 77).
- The risk of dying from pancreatic cancer varied by age, with 45.5% of men and 58.9% of women who died from pancreatic cancer aged 75 and over at death.
- In contrast, 6.3% of patients who died from pancreatic cancer were aged 0 to 54 at death.

Figure 16: Average number of deaths from pancreatic cancer per year in 2017-2021 by age at death

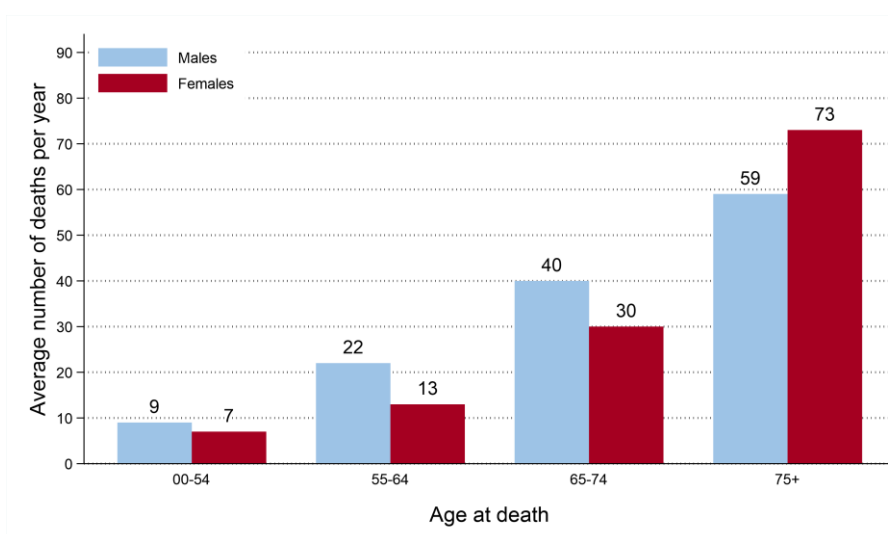
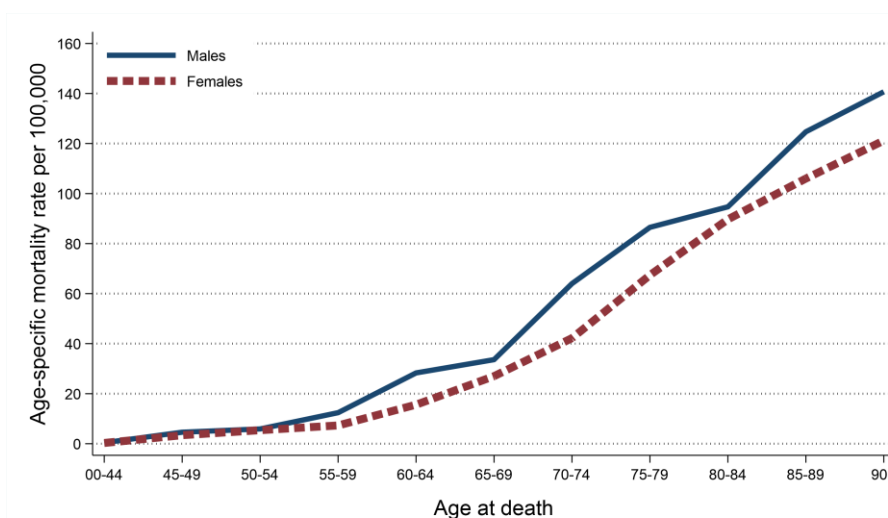


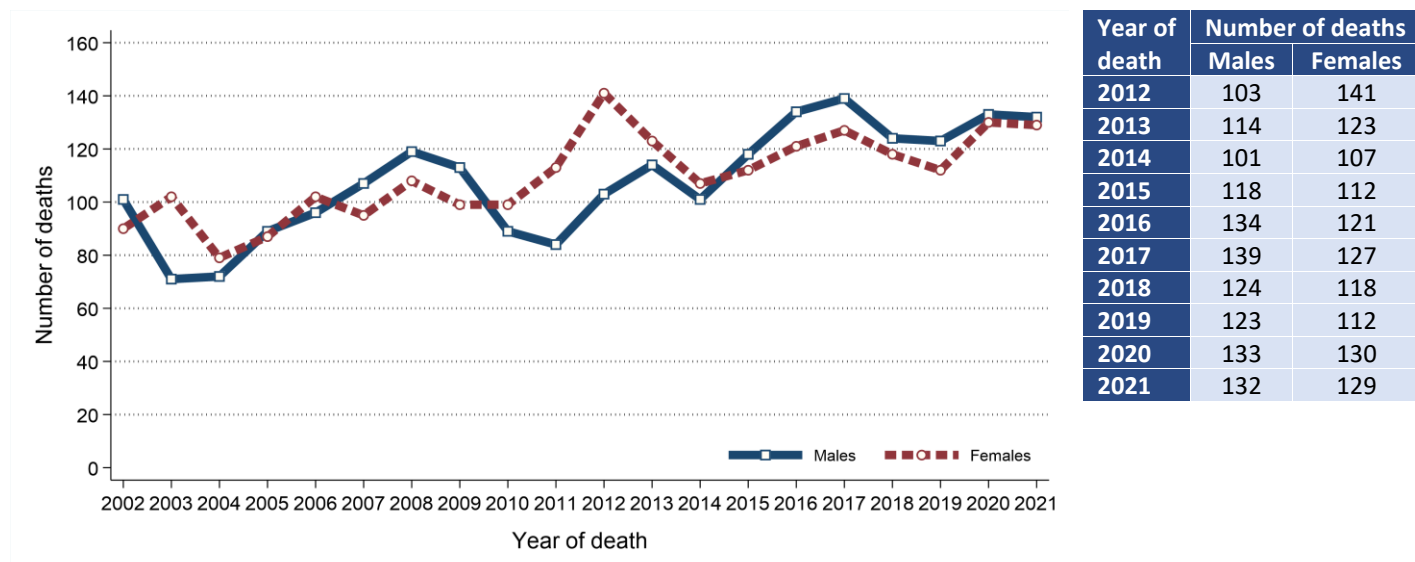
Figure 17: Age-specific mortality rates of pancreatic cancer in 2017-2021



# MORTALITY TRENDS

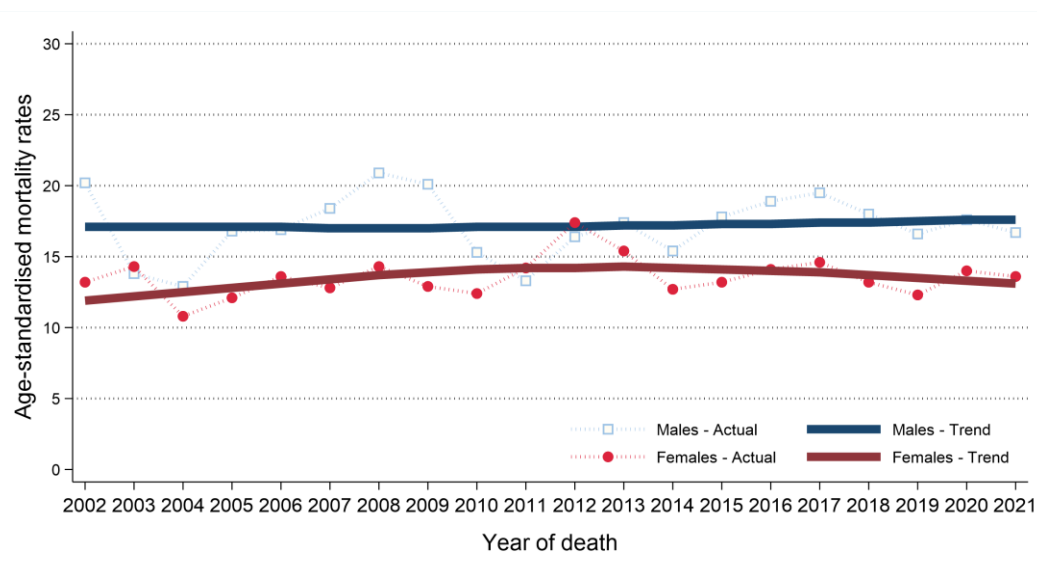
- The number of deaths from pancreatic cancer among males increased between 2012-2016 and 2017-2021 by 14.2% from 570 deaths (114 deaths per year) to 651 deaths (130 deaths per year).
- The number of deaths from pancreatic cancer among females increased between 2012-2016 and 2017-2021 by 2.0% from 604 deaths (121 deaths per year) to 616 deaths (123 deaths per year).

Figure 18: Trends in the number of deaths from pancreatic cancer from 2002 to 2021



- Male age-standardised pancreatic cancer mortality rates increased between 2012-2016 and 2017-2021 by 2.3% from 17.2 to 17.6 deaths per 100,000 males. This change was not statistically significant.
- Female age-standardised pancreatic cancer mortality rates decreased between 2012-2016 and 2017-2021 by 6.9% from 14.5 to 13.5 deaths per 100,000 females. This change was not statistically significant.

Figure 19: Trends in mortality rates of pancreatic cancer from 2002 to 2021



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.

## 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](http://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](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)).

**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. pancreatic 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. pancreatic 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 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.