Laryngeal cancer

1993-2022

(ICD10 codes: C32)

Northern Ireland Cancer Registry

Northern Ireland Cancer Registry, 2025

An official statistics publication

ABOUT THIS REPORT

Contents

This report includes information on incidence of laryngeal cancer as recorded by the Northern Ireland Cancer Registry (NICR). Incidence data is available annually from 1993 to 2022, 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.

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 2025. Laryngeal cancer: 1993-2022. 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

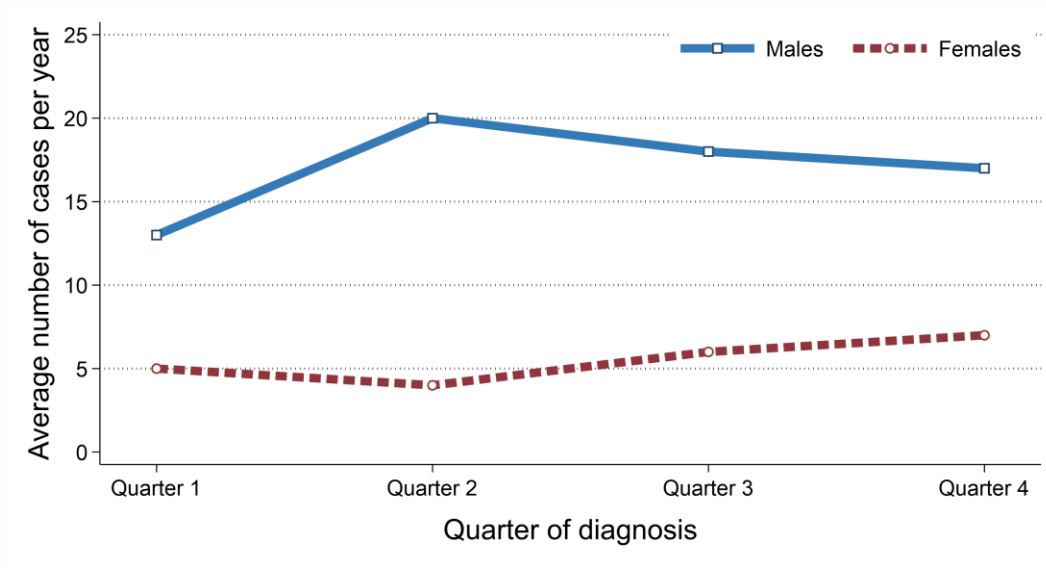
The Northern Ireland Cancer Registry (NICR) uses data provided by patients and collected by the health service as part of their care and support.

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

INCIDENCE

- There were 441 cases of laryngeal cancer diagnosed during 2018-2022 in Northern Ireland. On average this was 88 cases per year.
- During this period 24.3% of laryngeal cancer cases were among women (Male cases: 334, Female cases: 107). On average there were 67 male and 21 female cases of laryngeal cancer per year.
- The most common diagnosis month during 2018-2022 was May among males with 8 cases per year and December among females with 3 cases per year.

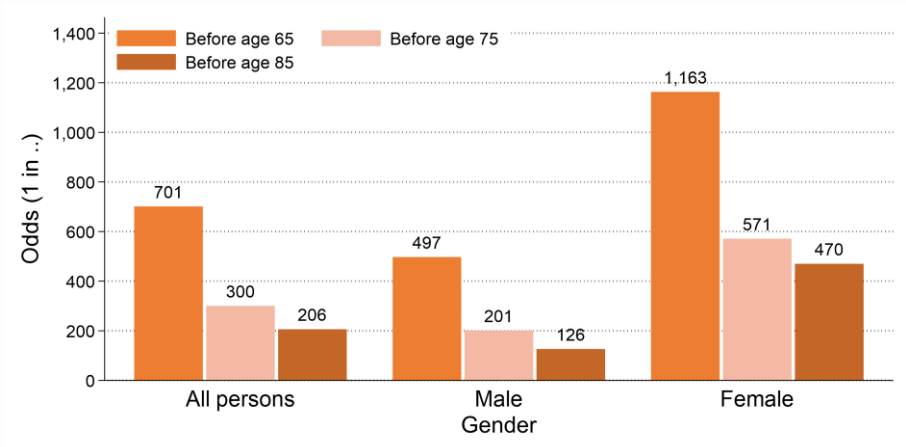
Figure 1: Average number of cases of laryngeal cancer per year in 2018-2022 by quarter of diagnosis



Quarter of diagnosis	Average number of cases per year	
	Males	Females
Quarter 1	13	5
Quarter 2	20	4
Quarter 3	18	6
Quarter 4	17	7

- Laryngeal cancer made up 1.3% of all male and 0.4% of all female cancer cases (excluding non-melanoma skin cancer).
- The laryngeal cancer incidence rates for each gender were 7.1 cases per 100,000 males and 2.2 cases per 100,000 females.
- The odds of developing laryngeal cancer before age 85 was 1 in 126 for men and 1 in 470 for women.

Figure 2: Odds of developing laryngeal cancer in 2018-2022



INCIDENCE BY AGE

- The median age of patients diagnosed with laryngeal cancer during 2018-2022 was 68 years (Males: 68, Females: 65).
- The risk of developing laryngeal cancer varied by age, with 26.3% of men and 13.1% of women diagnosed with laryngeal cancer aged 75 and over at diagnosis.
- In contrast, 13.2% of patients diagnosed with laryngeal cancer were aged 0 to 54 at diagnosis.

Figure 3: Average number of cases of laryngeal cancer diagnosed per year in 2018-2022 by age at diagnosis

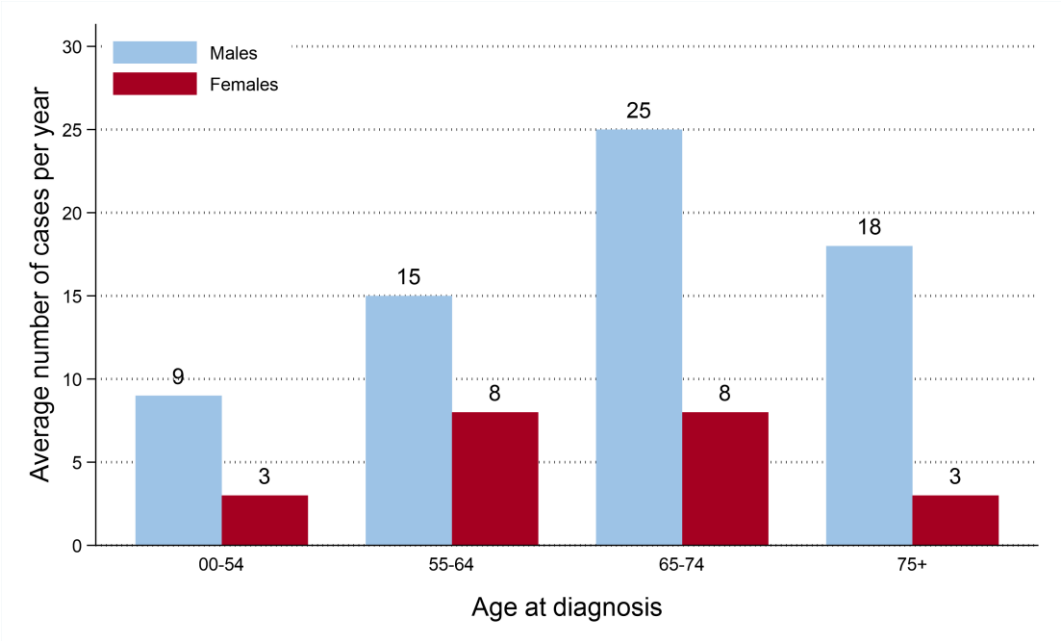
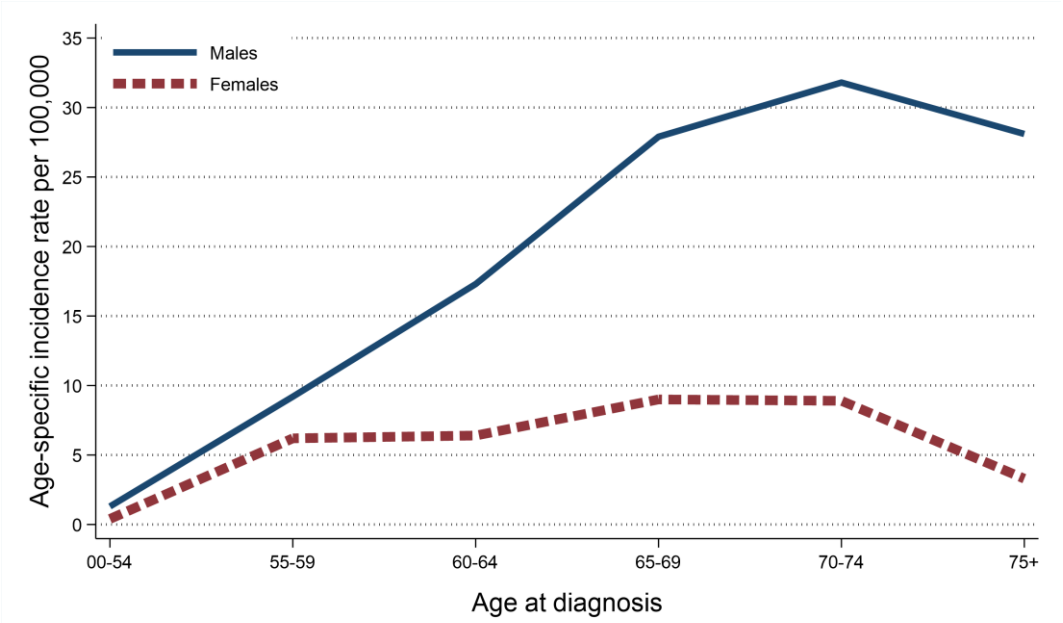


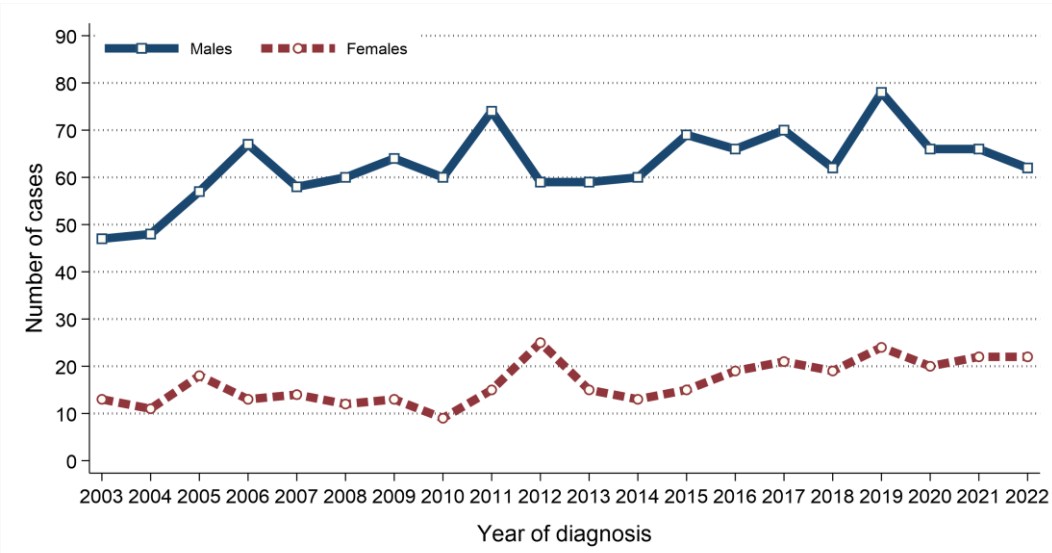
Figure 4: Age-specific incidence rates of laryngeal cancer in 2018-2022



INCIDENCE TRENDS

- The number of cases of laryngeal cancer among males increased between 2013-2017 and 2018-2022 by 3.1% from 324 cases (65 cases per year) to 334 cases (67 cases per year).
- The number of cases of laryngeal cancer among females increased between 2013-2017 and 2018-2022 by 28.9% from 83 cases (17 cases per year) to 107 cases (21 cases per year).

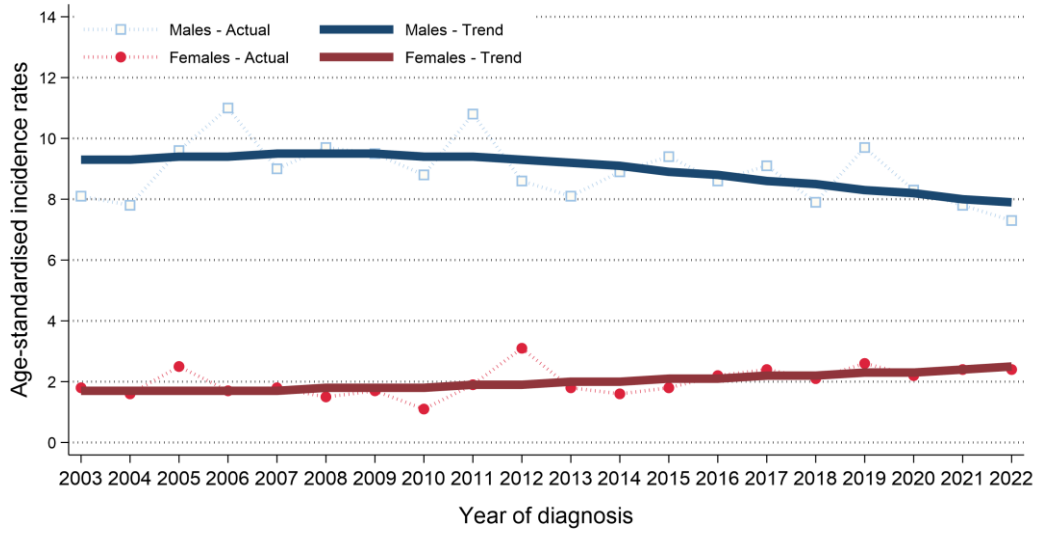
Figure 5: Trends in number of cases of laryngeal cancer diagnosed from 2003 to 2022



Year of diagnosis	Number of cases	
	Males	Females
2013	59	15
2014	60	13
2015	69	15
2016	66	19
2017	70	21
2018	62	19
2019	78	24
2020	66	20
2021	66	22
2022	62	22

- Male age-standardised laryngeal cancer incidence rates decreased between 2013-2017 and 2018-2022 by 6.8% from 8.8 to 8.2 cases per 100,000 males. This change was not statistically significant.
- Female age-standardised laryngeal cancer incidence rates increased between 2013-2017 and 2018-2022 by 15.0% from 2.0 to 2.3 cases per 100,000 females. This change was not statistically significant.

Figure 6: Trends in incidence rates of laryngeal cancer from 2003 to 2022



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).

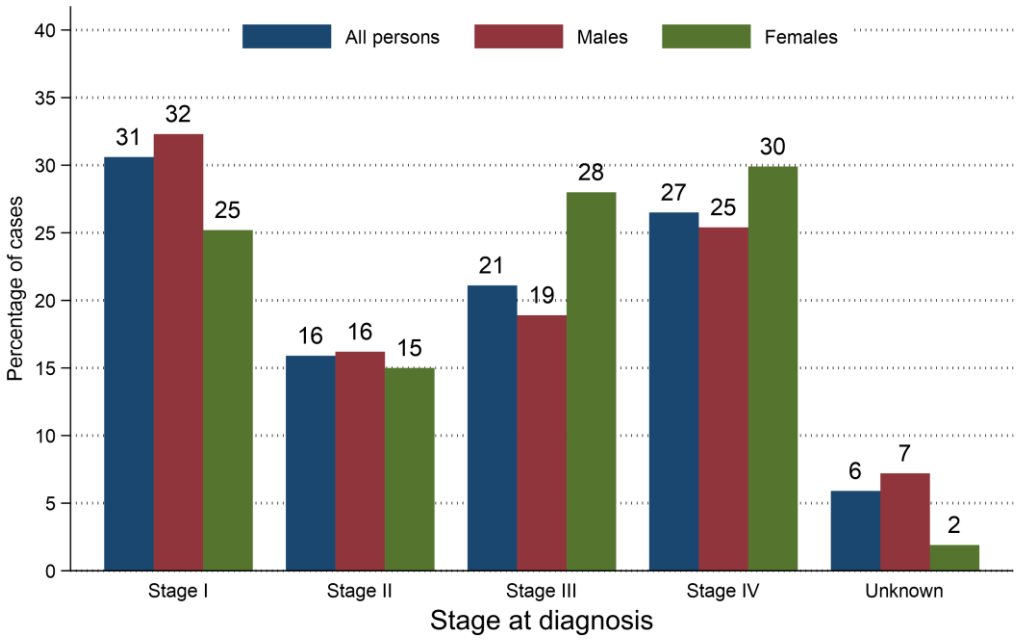
INCIDENCE BY STAGE AT DIAGNOSIS

- During 2018-2022 94.1% of laryngeal cancer cases had a stage assigned.
- 30.6% of laryngeal cancer cases were diagnosed at Stage I. (32.5% of staged cases)
- 26.5% of laryngeal cancer cases were diagnosed at Stage IV. (28.2% of staged cases)

Table 1: Number of cases of laryngeal cancer diagnosed in 2018-2022 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	**441**	**88**	**334**	**67**	**107**	**21**
	.	.	.	.	.	.
Stage I	135	27	108	22	27	5
Stage II	70	14	54	11	16	3
Stage III	93	19	63	13	30	6
Stage IV	117	23	85	17	32	6
Unknown	26	5	24	5	2	0

Figure 7: Proportion of cases of laryngeal cancer diagnosed in 2018-2022 by stage at diagnosis



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 2019, Version 8 from 2019 onwards).

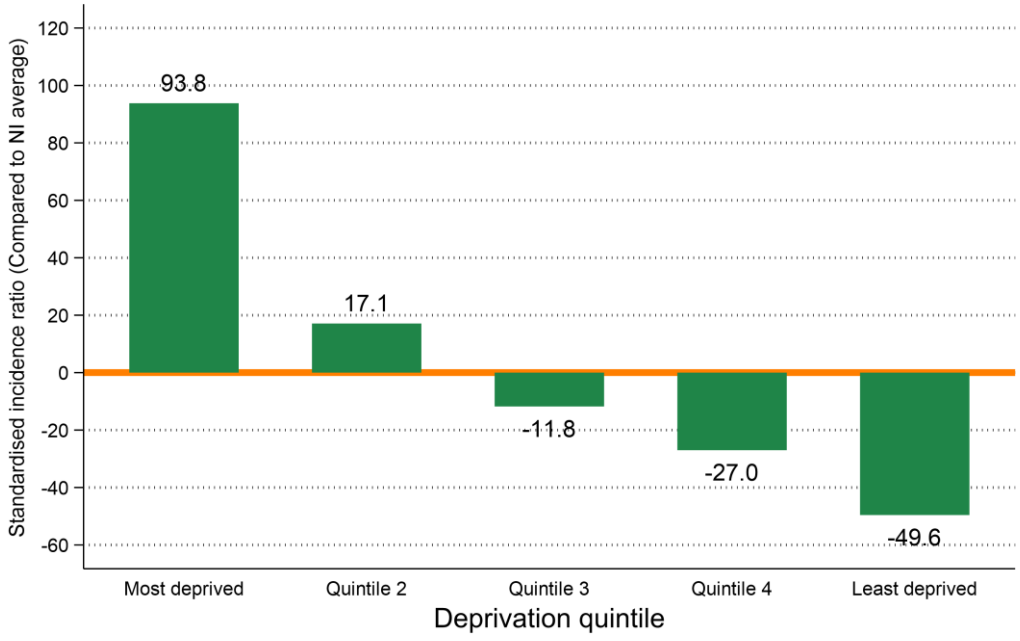
INCIDENCE BY DEPRIVATION

- The number of cases of laryngeal cancer diagnosed during 2018-2022 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 were 93.8% higher than the NI average.
  - in the least socio-economically deprived areas were 49.6% lower than the NI average.

Table 2: Number of cases of laryngeal cancer diagnosed in 2018-2022 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	**441**	**88**	**334**	**67**	**107**	**21**
	.	.	.	.	.	.
Most deprived	140	28	99	20	41	8
Quintile 2	103	21	74	15	29	6
Quintile 3	82	16	68	14	14	3
Quintile 4	69	14	56	11	13	3
Least deprived	47	9	37	7	10	2
Unknown	0	0	0	0	0	0

Figure 8: Standardised incidence ratio comparing deprivation quintile to Northern Ireland for laryngeal cancer diagnosed in 2018-2022



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

A value above 0 means that incidence rates in that deprivation quintile 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.

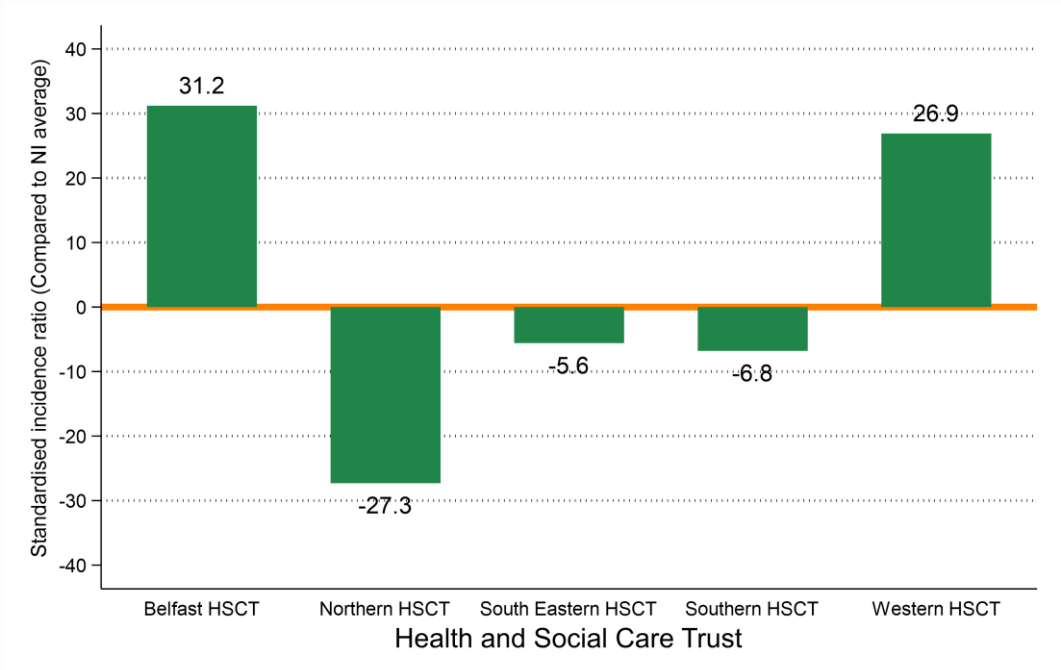
INCIDENCE BY HEALTH AND SOCIAL CARE TRUST

- The number of cases of laryngeal cancer diagnosed during 2018-2022 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 were 31.2% higher than the NI average.
  - in Northern HSCT were 27.3% lower than 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 were 26.9% higher than the NI average.

Table 3: Number of cases of laryngeal cancer diagnosed in 2018-2022 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	**441**	**88**	**334**	**67**	**107**	**21**
	.	.	.	.	.	.
Belfast HSCT	101	20	75	15	26	5
Northern HSCT	85	17	69	14	16	3
South Eastern HSCT	88	18	65	13	23	5
Southern HSCT	78	16	61	12	17	3
Western HSCT	89	18	64	13	25	5
Unknown	0	0	0	0	0	0

Figure 9: Standardised incidence ratio comparing Health and Social Care Trust to Northern Ireland for laryngeal cancer diagnosed in 2018-2022



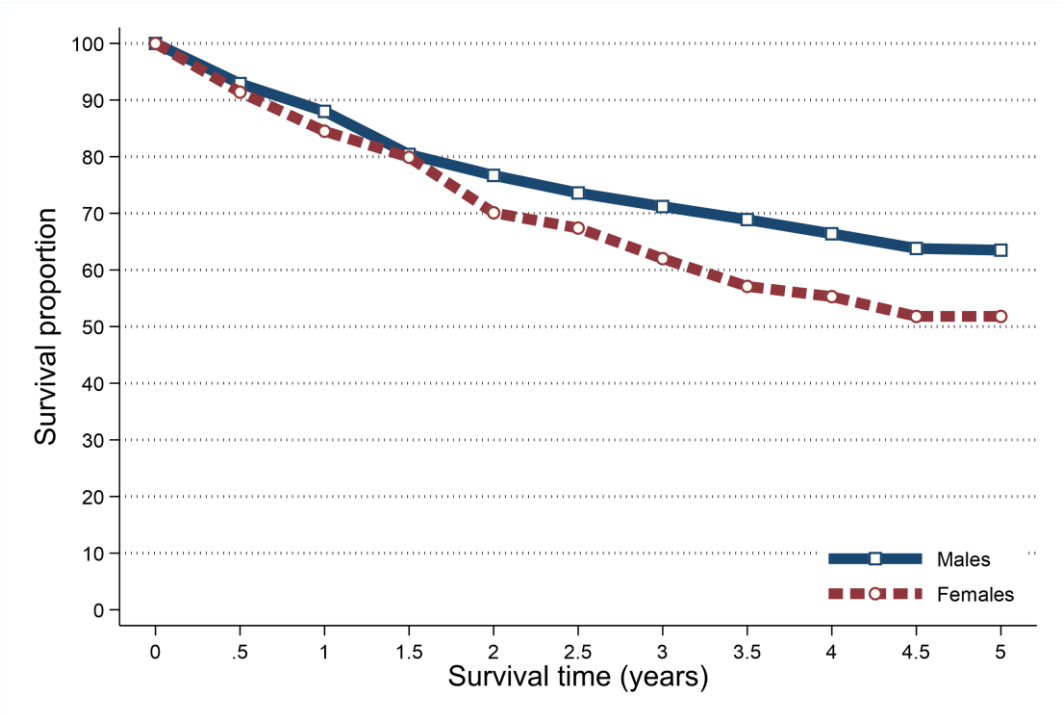
SURVIVAL

- 85.2% of patients were alive one year and 53.9% were alive five years from a laryngeal cancer diagnosis in 2013-2017. (observed survival)
- Age-standardised net survival (ASNS), which removes the effect of deaths from causes unrelated to cancer, was 87.3% one year and 61.1% five years from a laryngeal cancer diagnosis in 2013-2017.
- Five-year survival (ASNS) for laryngeal cancer patients diagnosed in 2013-2017 was 63.5% among men and 51.8% among women.

Table 4: Survival from laryngeal cancer for patients diagnosed in 2013-2017

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	91.6%	92.6%	91.6%	92.9%	91.6%	91.4%
One year	85.2%	87.3%	85.4%	88.0%	84.3%	84.5%
Two years	71.9%	75.3%	72.4%	76.7%	69.9%	70.1%
Five years	53.9%	61.1%	55.1%	63.5%	49.4%	51.8%

Figure 10: Age-standardised net survival from laryngeal cancer for patients diagnosed in 2013-2017



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.

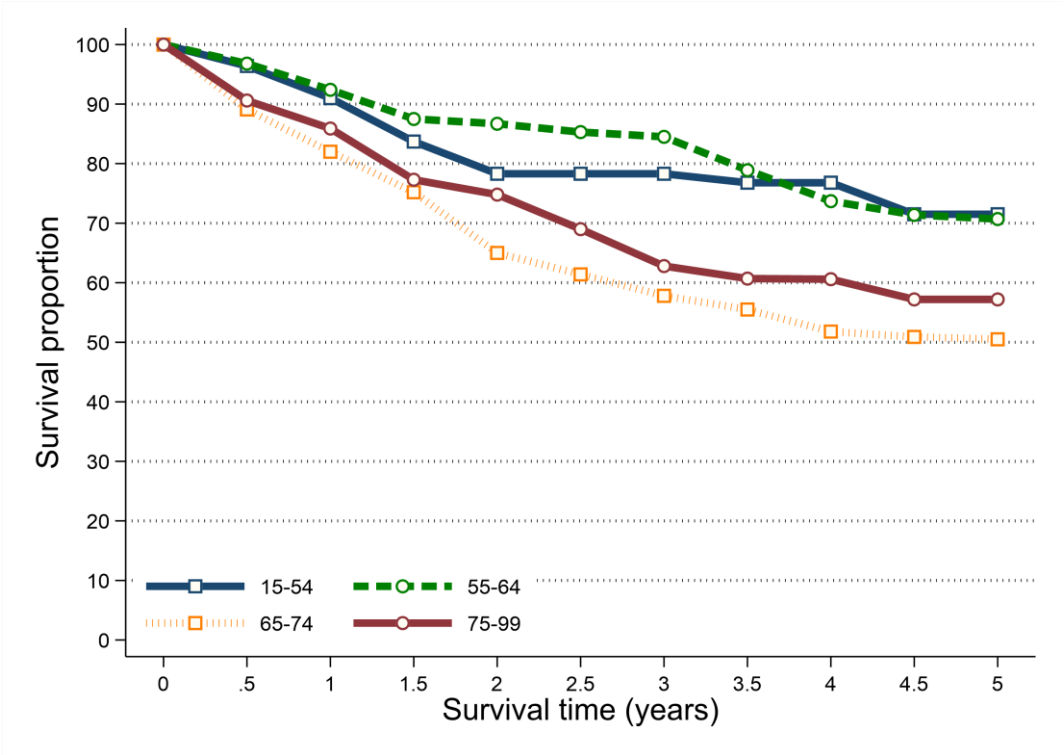
SURVIVAL BY AGE

- Survival from laryngeal cancer among patients diagnosed during 2013-2017 was related to age with better five-year survival among younger age groups.
- Five-year net survival ranged from 71.5% among patients aged 15 to 54 at diagnosis to 50.5% among those aged 65 to 74.

Table 5: Net survival from laryngeal cancer for patients diagnosed in 2013-2017 by age at diagnosis

Age group	All persons	
	One-year	Five-years
15 to 54	91.0%	71.5%
55 to 64	92.4%	70.7%
65 to 74	82.0%	50.5%
75 to 99	85.9%	57.2%

Figure 11: Net survival from laryngeal cancer for patients diagnosed in 2013-2017 by age at diagnosis

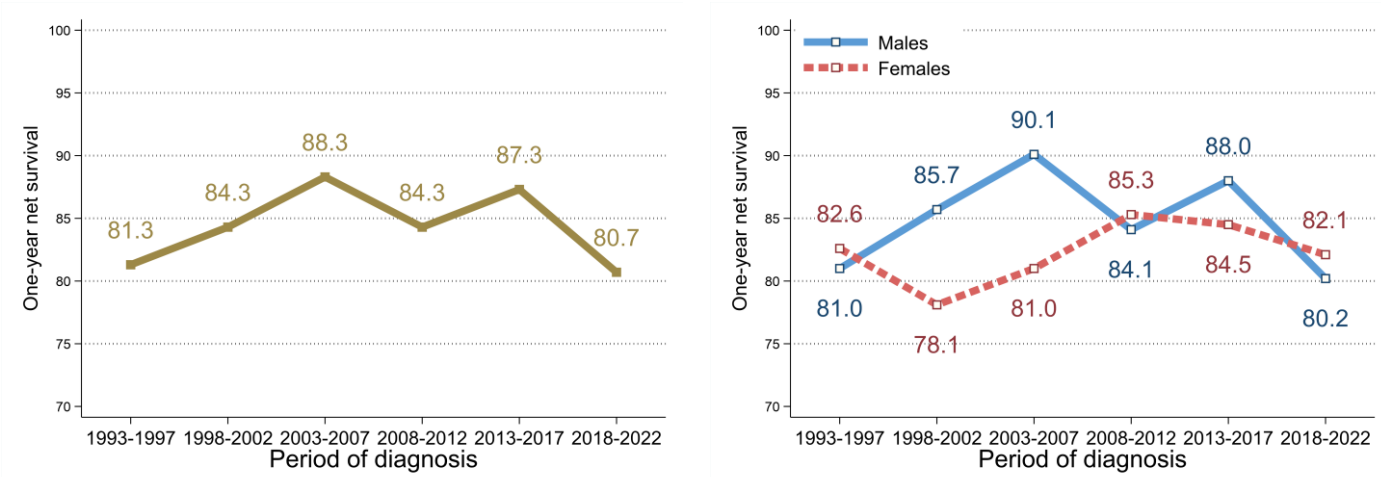


SURVIVAL TRENDS

ONE-YEAR NET SURVIVAL

- Between 2013-2017 and 2018-2022 there was no significant change in one-year survival (ASNS) from laryngeal cancer.
- Compared to 1993-1997 one-year survival (ASNS) from laryngeal cancer in 2018-2022 did not change significantly.

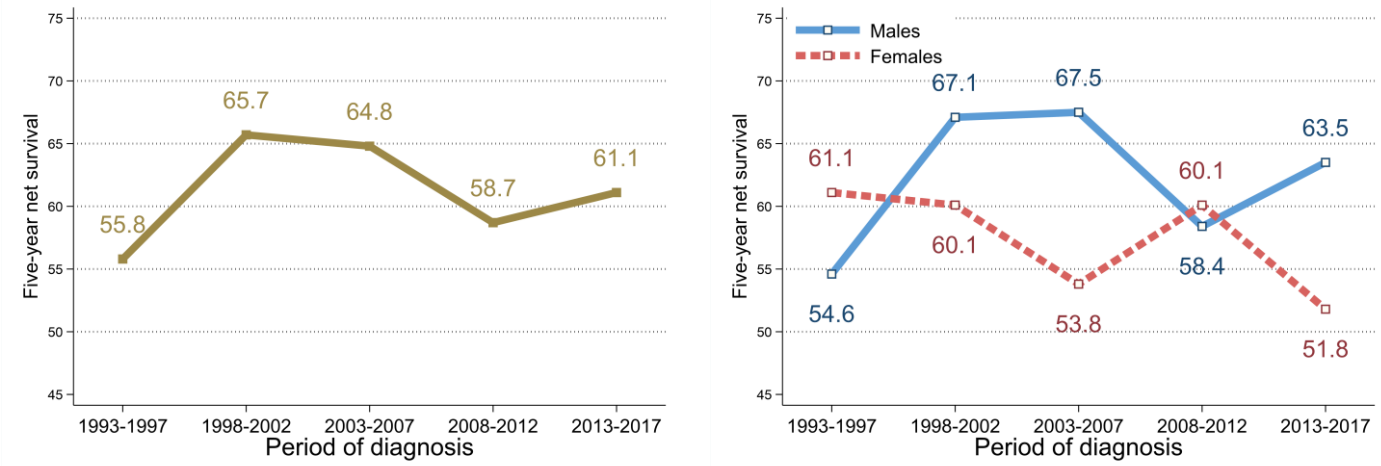
Figure 12: Trends in one-year age-standardised net survival from laryngeal cancer in 1993-2022



FIVE-YEAR NET SURVIVAL

- Between 2008-2012 and 2013-2017 there was no significant change in five-year survival (ASNS) from laryngeal cancer.
- Compared to 1993-1997 five-year survival (ASNS) from laryngeal cancer in 2013-2017 did not change significantly.

Figure 13: Trends in five-year age-standardised net survival from laryngeal cancer in 1993-2017



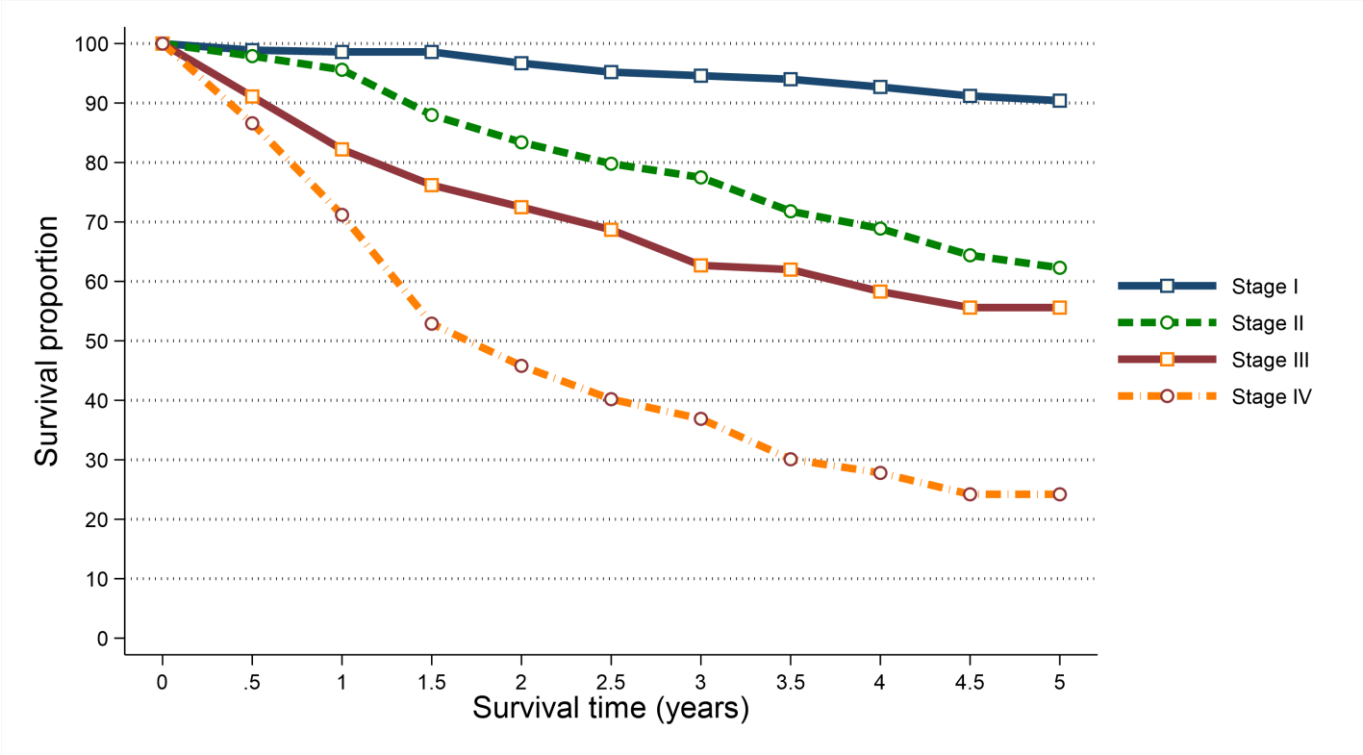
SURVIVAL BY STAGE

- Survival from laryngeal cancer among patients diagnosed during 2013-2017 was strongly related to stage with better five-year survival among those diagnosed at earlier stages.
- Five-year survival (ASNS) ranged from 90.4% among patients diagnosed at Stage I to 24.2% among those diagnosed at Stage IV.

Table 6: Age-standardised net survival from laryngeal cancer for patients diagnosed in 2013-2017 by stage at diagnosis

Stage at diagnosis	All persons	
	One-year	Five-years
Stage I	98.6%	90.4%
Stage II	95.6%	62.3%
Stage III	82.2%	55.6%
Stage IV	71.2%	24.2%
Unknown	59.2%	44.5%

Figure 14: Age-standardised net survival from laryngeal cancer for patients diagnosed in 2013-2017 by stage at diagnosis



PREVALENCE

- At the end of 2022, there were 722 people (Males: 564; Females: 158) living with laryngeal cancer who had been diagnosed with the disease during 1998-2022.
- Of these 10.5% had been diagnosed in the previous year (one-year prevalence) and 67.3% in the previous 10 years (ten-year prevalence).
- 35.7% of laryngeal cancer survivors were aged 75 and over at the end of 2022.

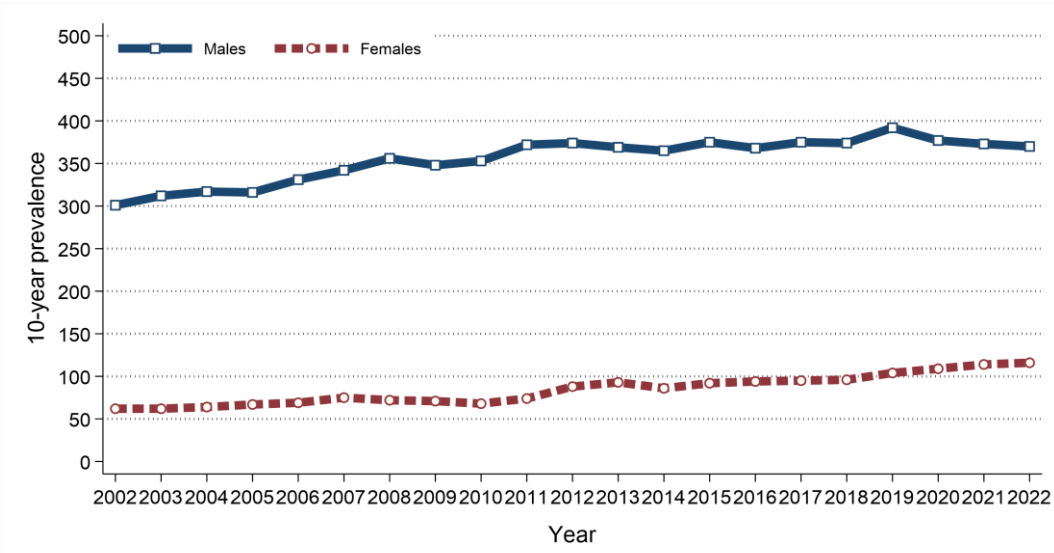
Table 7: 25-year prevalence of laryngeal cancer by age at end of 2022

Age at end of 2022	25-year prevalence	Time since diagnosis			
		0 to 1 year	1 to 5 years	5 to 10 years	10 to 25 years
All ages	722	76	229	181	236
0 to 74	464	58	173	113	120
75 and over	258	18	56	68	116

PREVALENCE TRENDS

- 10-year prevalence of laryngeal cancer among males decreased between 2017 and 2022 by 1.3% from 375 survivors to 370 survivors.
- 10-year prevalence of laryngeal cancer among females increased between 2017 and 2022 by 22.1% from 95 survivors to 116 survivors.

Figure 15: Trends in 10-year prevalence of laryngeal cancer in 2002-2022



Year	10-year prevalence	
	Males	Females
2013	369	93
2014	365	86
2015	375	92
2016	368	94
2017	375	95
2018	374	96
2019	392	104
2020	377	109
2021	373	114
2022	370	116

MORTALITY

- There were 162 deaths from laryngeal cancer during 2018-2022 in Northern Ireland. On average this was 32 deaths per year.
- During this period 19.8% of laryngeal cancer deaths were among women (Male deaths: 130, Female deaths: 32). On average there were 26 male and 6 female deaths from laryngeal cancer per year.
- Laryngeal cancer deaths made up 1.1% of all male and 0.3% of all female cancer deaths.
- The median age of patients who died from laryngeal cancer during 2018-2022 was 73 years (Males: 74, Females: 69).
- The risk of dying from laryngeal cancer varied by age, with 11.1% of those who died from laryngeal cancer aged 85 and over at death.
- In contrast, 20.4% of patients who died from laryngeal cancer were aged 0 to 64 at death.

Figure 16: Average number of deaths from laryngeal cancer per year in 2018-2022 by age at death

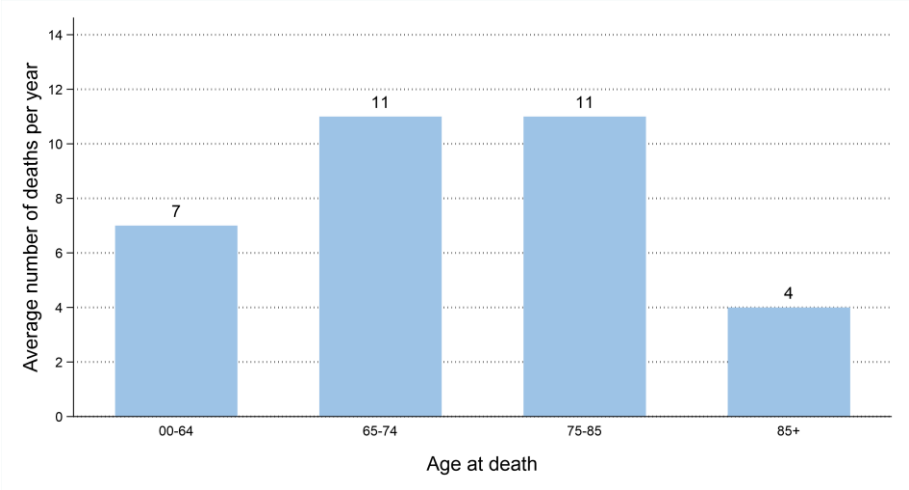
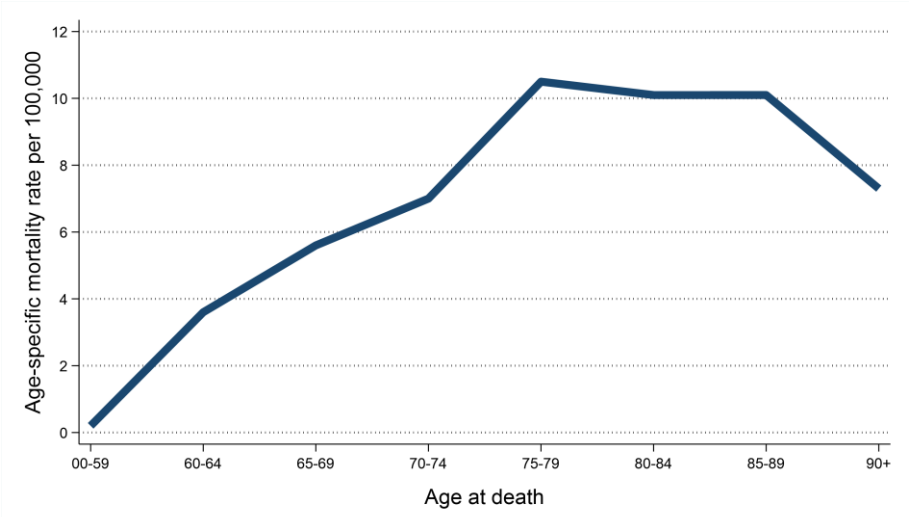


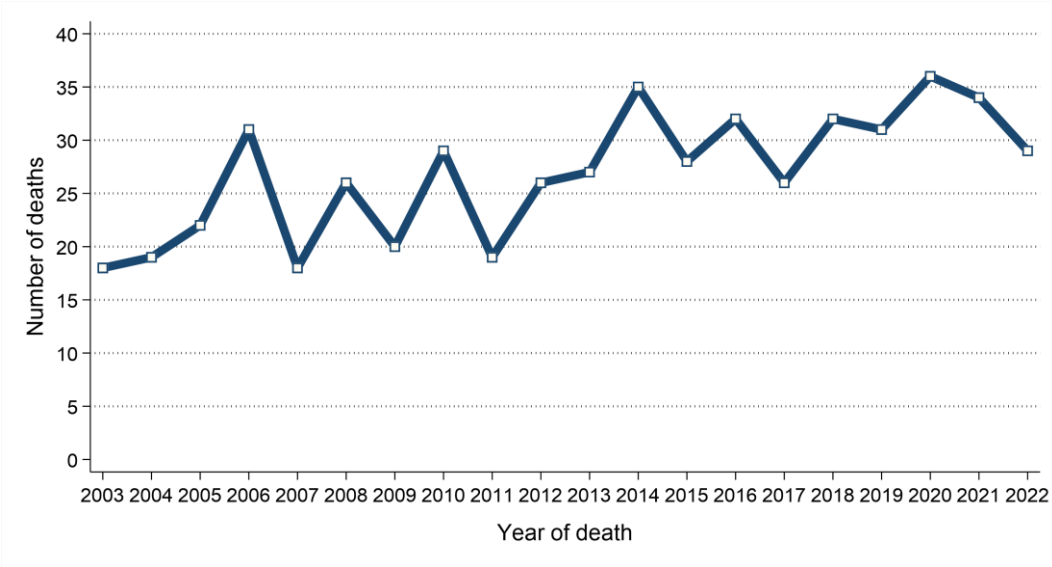
Figure 17: Age-specific mortality rates of laryngeal cancer in 2018-2022



MORTALITY TRENDS

- The number of deaths from laryngeal cancer increased between 2013-2017 and 2018-2022 by 9.5% from 148 deaths (30 deaths per year) to 162 deaths (32 deaths per year).

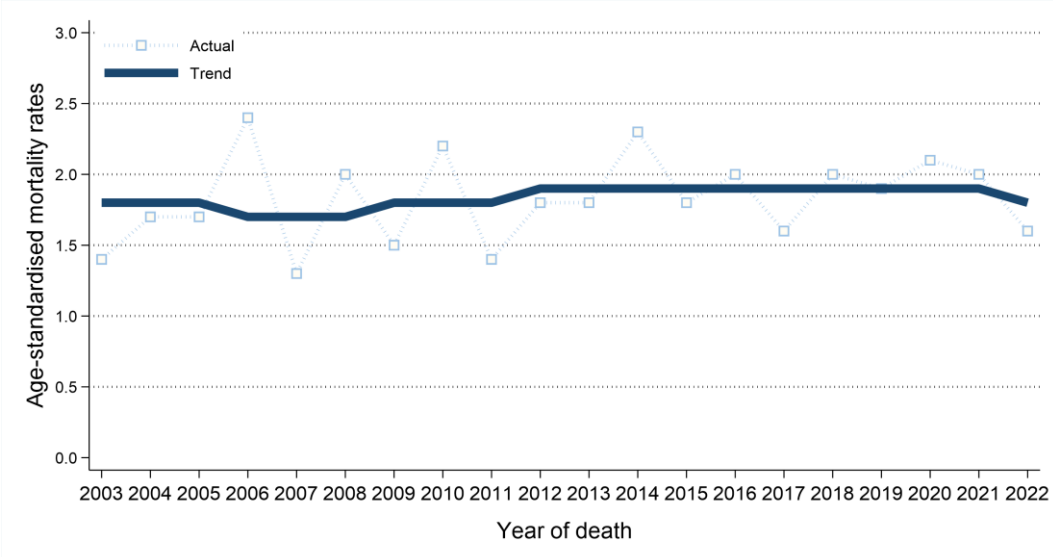
Figure 18: Trends in the number of deaths from laryngeal cancer from 2003 to 2022



Year of death	Number of deaths All persons
2013	27
2014	35
2015	28
2016	32
2017	26
2018	32
2019	31
2020	36
2021	34
2022	29

- Age-standardised laryngeal cancer mortality rates did not change between 2013-2017 and 2018-2022 with 1.9 deaths per 100,000 persons in each period of time.

Figure 19: Trends in mortality rates of laryngeal cancer from 2003 to 2022



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).

Geographic areas: Geographic areas are assigned based on a patient's postcode of usual residence at diagnosis using the Jul 2024 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. laryngeal 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. laryngeal 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 2022 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.