Head and neck cancer

Patients diagnosed 1993-2019
(ICD10: C00-C14, C30-C32)

Further information

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

Acknowledgements

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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 2015-2019:

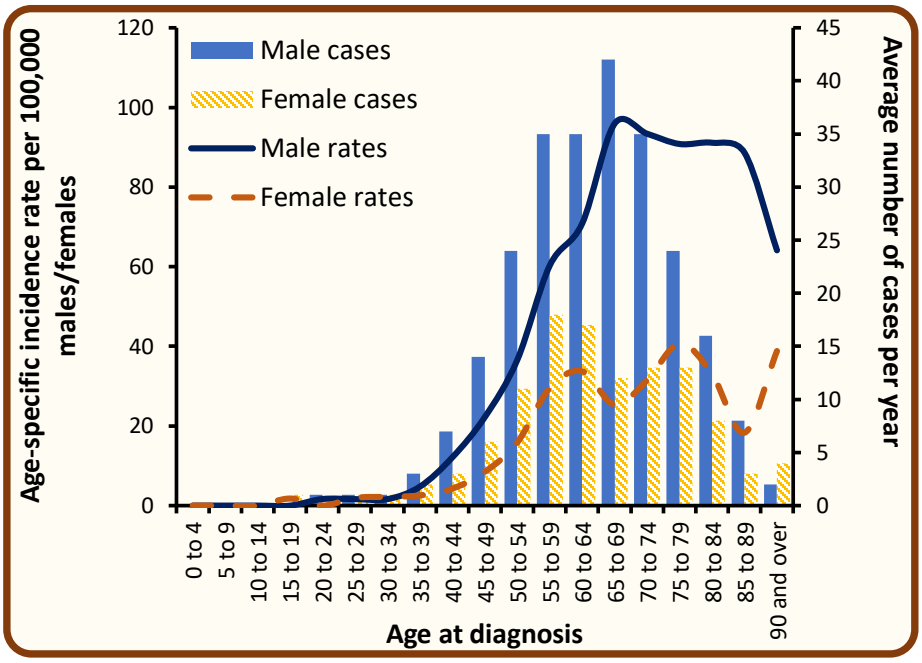
- There were 247 male and 111 female cases of head and neck cancer diagnosed each year.
- Head and neck cancer made up 5.0% of all male, and 2.3% of all female cancers (ex NMSC).
- The risk of developing head and neck cancer before the age of 75 was 1 in 50.4 for men and 1 in 127.4 for women, while before the age of 85 the risk was 1 in 34.8 for men and 1 in 87.0 for women.

Incidence by age at diagnosis - *Head and neck cancer, Cases in 2015-2019*

During 2015-2019:

- The median age at diagnosis was 65 for men and 63 for women.
- Cancer risk increased with age, with 20.2% of men and 25.2% of women aged 75 years or more at diagnosis.
- 20.7% of cases were diagnosed among those aged under 55.

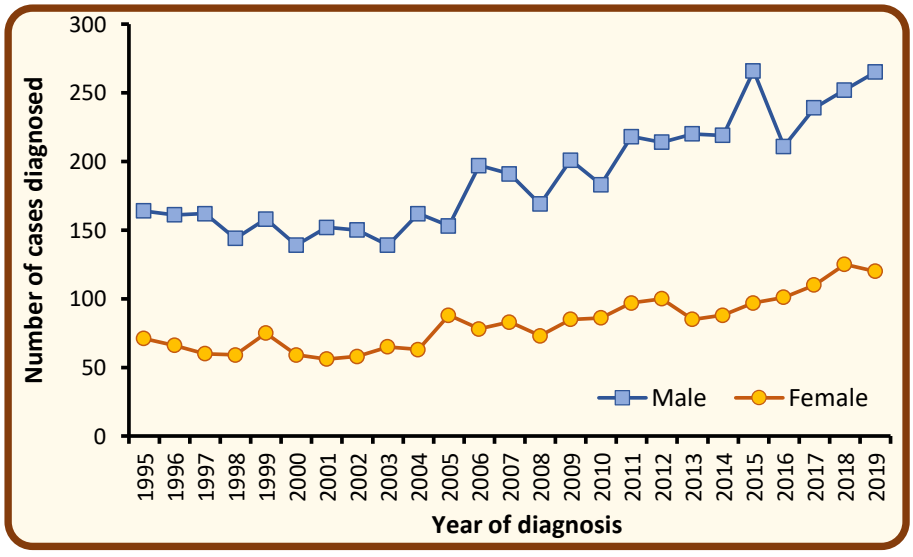
Age at diagnosis	Average cases per year		
	Male	Female	Both sexes
0 - 54	51	25	74
54 - 64	70	35	105
65 - 74	77	25	101
75 +	50	28	77
All ages	247	111	357



Incidence by year of diagnosis - *Head and neck cancer, Cases in 1995-2019*

- Among males the number of cases of head and neck cancer increased by 17.1% from an annual average of 211 cases in 2010-2014 to 247 cases in 2015-2019.
- Among females the number of cases of head and neck cancer increased by 22.0% from an annual average of 91 cases in 2010-2014 to 111 cases in 2015-2019.

Year of diagnosis	Male	Female	Both sexes
2010	183	86	269
2011	218	97	315
2012	214	100	314
2013	220	85	305
2014	219	88	307
2015	266	97	363
2016	211	101	312
2017	239	110	349
2018	252	125	377
2019	265	120	385

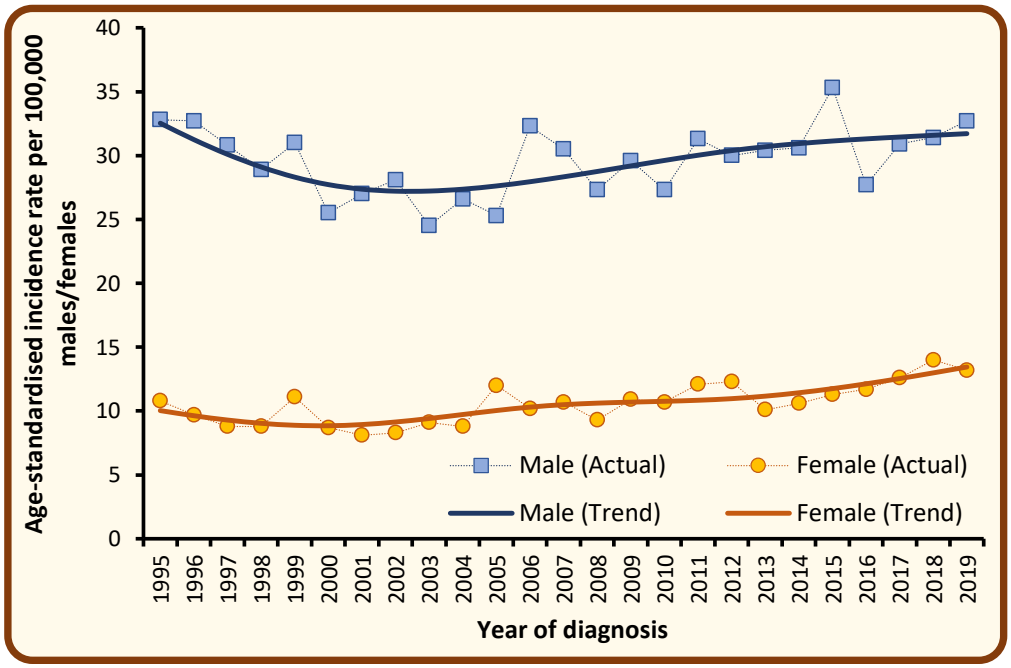


Note: Annual averages have been rounded to the nearest integer. Sums of numbers in table rows or columns may thus differ slightly from the given total.
NMSC: Non-melanoma skin cancer

Trends in age-standardised incidence rates - *Head and neck cancer, Cases in 1995-2019*

▪ Among males age-standardised incidence rates of head and neck cancer increased by 5.3% from 30.0 per 100,000 person years in 2010-2014 to 31.6 cases per 100,000 persons years in 2015-2019. This difference was not statistically significant.

▪ Among females age-standardised incidence rates of head and neck cancer increased by 12.5% from 11.2 per 100,000 person years in 2010-2014 to 12.6 cases per 100,000 persons years in 2015-2019. This difference was not statistically significant.



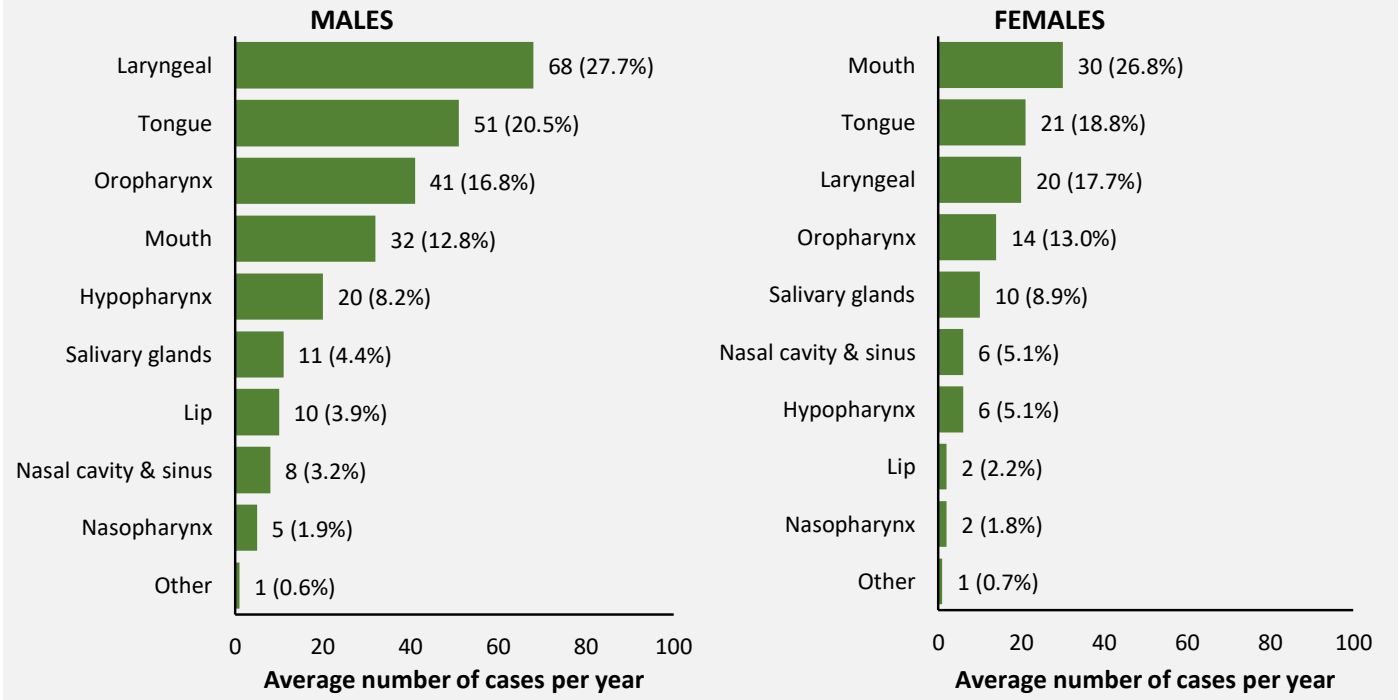
Age-standardised incidence rates illustrate the change in the number of cases within a population of a fixed size and age structure (2013 European Standard).

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 cancer type - *Head and neck cancer, Cases in 2015-2019*

The most common head and neck cancer types among men, were laryngeal cancer (27.7%), cancer of the tongue (20.5%) and oropharyngeal cancer (16.8%), while the most common head and neck cancer types among women were cancer of the mouth (26.8%), cancer of the tongue (18.8%) and laryngeal cancer (17.7%).



Incidence by deprivation quintile - *Head and neck cancer, Cases in 2015-2019*

The annual number of cases during 2015-2019 varied in each deprivation quintile due to variations in population size and age.

After accounting for these factors, incidence rates:

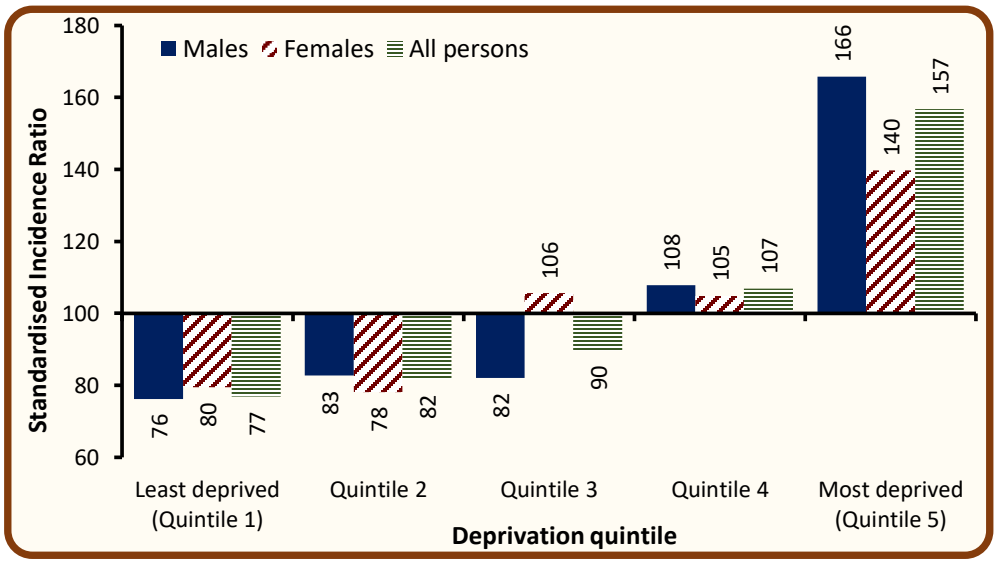
- in the most socio-economically deprived areas were 56.8% higher than the NI average.
- in the least socio-economically deprived areas were 23.1% lower than the NI average.

Deprivation quintile	Average cases per year		
	Male	Female	Both sexes
Least deprived (Quintile 1)	39	19	58
Quintile 2	44	18	62
Quintile 3	43	24	67
Quintile 4	53	23	76
Most deprived (Quintile 5)	68	26	94
Northern Ireland	247	111	357

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.



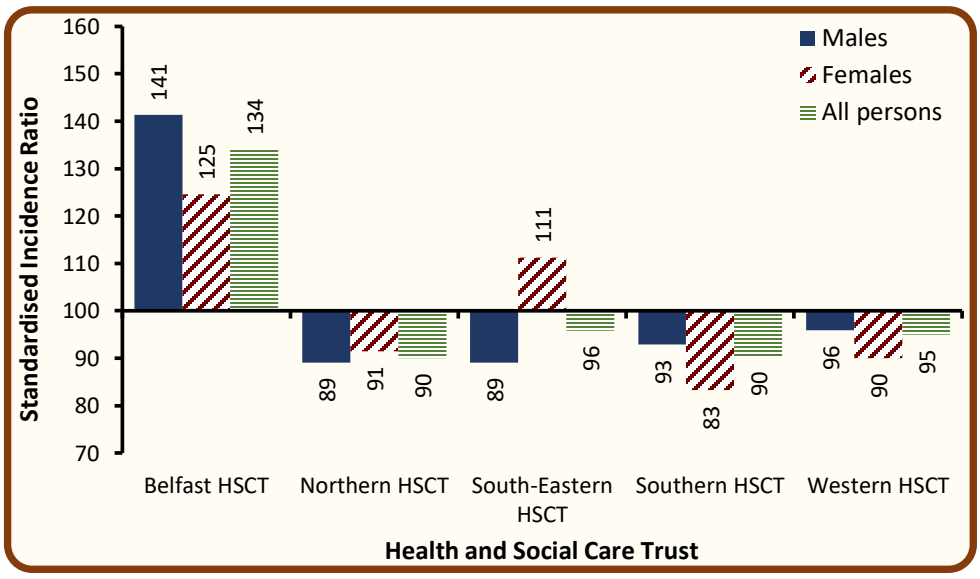
Incidence by Health and Social Care Trust (HSCT) - *Head and neck cancer, Cases in 2015-2019*

The annual number of cases during 2015-2019 varied in each HSCT due to variations in population size and age.

After accounting for these factors, incidence rates:

- in Belfast HSCT were significantly higher than the NI average.
- in Northern HSCT were significantly 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 did not vary significantly from the NI average.

Health and Social Care Trust	Average cases per year		
	Male	Female	Both sexes
Belfast HSCT	61	26	86
Northern HSCT	58	27	85
South-Eastern HSCT	46	26	71
Southern HSCT	44	17	61
Western HSCT	38	15	54
Northern Ireland	247	111	357



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.

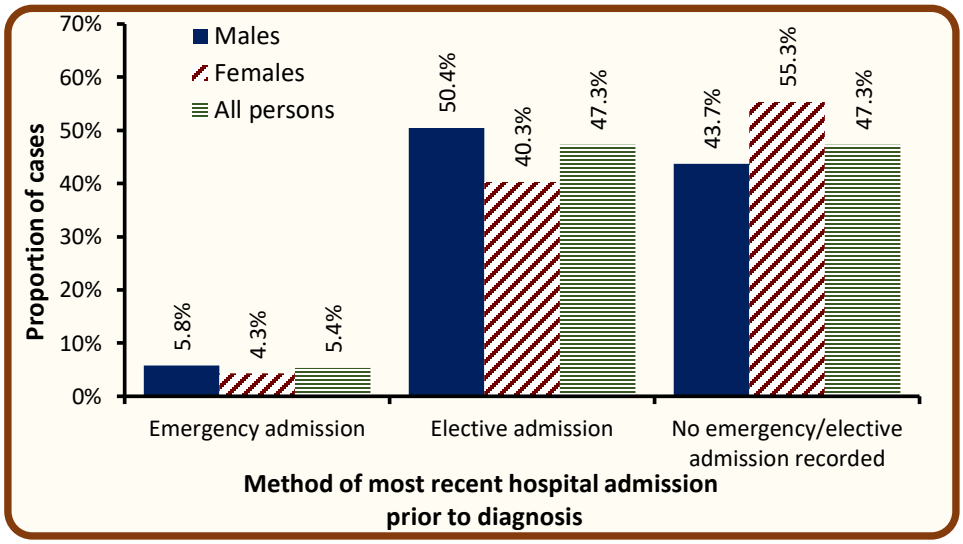
Data for Local Government Districts and Parliamentary Constituencies are available at www.qub.ac.uk/research-centres/nicr

Incidence by method of most recent admission to hospital - *Head and neck cancer, Cases in 2015-2019*

During 2015-2019:

- 5.4% of cases had an emergency admission to hospital recorded up to 30 days prior to their cancer diagnosis.
- 5.8% of male cases had an emergency admission up to 30 days prior to diagnosis, compared to 4.3% of female cases.
- In 47.3% of diagnosed cases there was no record of a hospital inpatient admission up to 30 days prior to the diagnosis.

Method of admission	Average cases per year		
	Male	Female	Both sexes
Emergency admission	14	5	19
Elective admission	124	45	169
No emergency/elective admission recorded	108	61	169
Total	247	111	357



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.

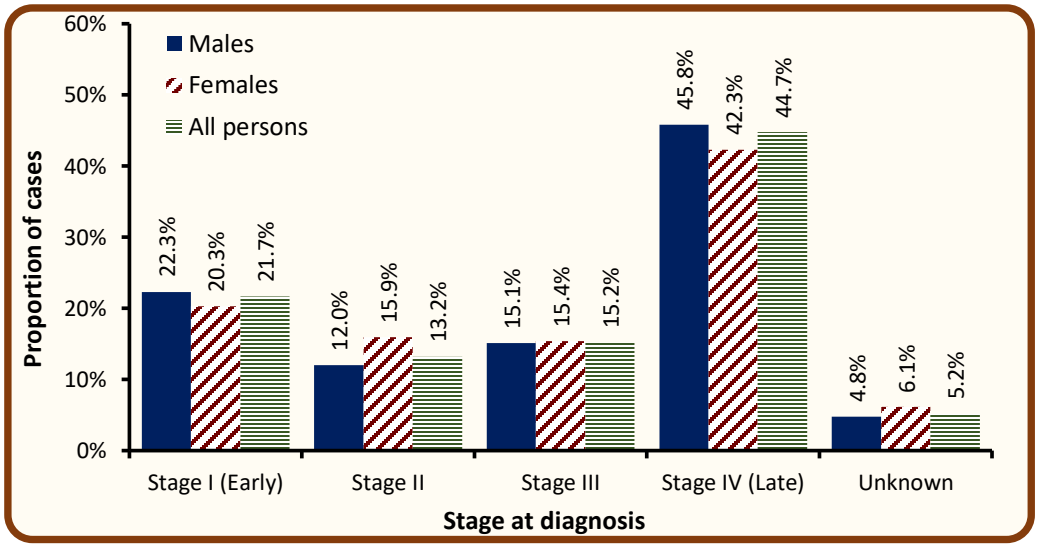
The majority of patients with no inpatient admission recorded prior to diagnosis are likely to have been diagnosed via an outpatient route.

Incidence by stage at diagnosis - *Head and neck cancer, Cases in 2015-2019*

During 2015-2019:

- 94.8% of cases diagnosed had a stage assigned.
- 21.7% of cases were diagnosed at stage I. (22.9% of staged cases)
- 44.7% of cases were diagnosed at stage IV. (47.2% of staged cases)
- Among cases which were staged, 48.1% of male cases were diagnosed at stage IV, compared to 45.1% of female cases.

Stage at diagnosis	Average cases per year		
	Male	Female	Both sexes
Stage I (Early)	55	22	77
Stage II	30	18	47
Stage III	37	17	54
Stage IV (Late)	113	47	160
Unknown	12	7	19
All stages	247	111	357



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).

Survival

▪ 77.0% of patients were alive one year and 47.6% were alive five years from a head and neck cancer diagnosis in 2010-2014. (observed survival)

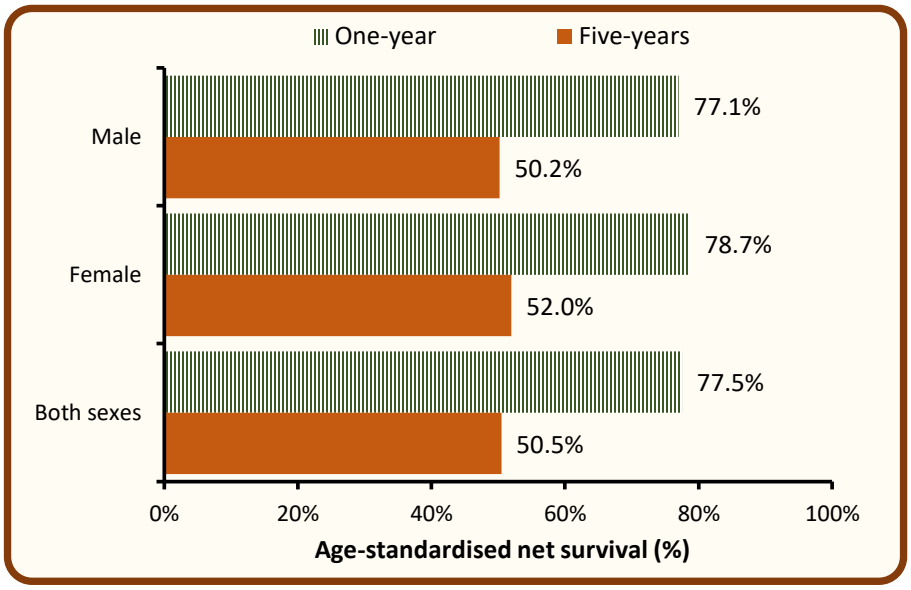
▪ Age-standardised net survival (ASNS), which removes the effect of deaths from causes unrelated to cancer, was 77.5% one year and 50.5% five years from a head and neck cancer diagnosis in 2010-2014.

▪ Five-year survival (ASNS) for head and neck cancer patients diagnosed in 2010-2014 was 50.2% among men and 52.0% among women.

Gender	Observed survival		Age-standardised net survival	
	One-year	Five-years	One-year	Five-years
Male	76.7%	46.7%	77.1%	50.2%
Female	77.6%	49.6%	78.7%	52.0%
Both sexes	77.0%	47.6%	77.5%	50.5%

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.

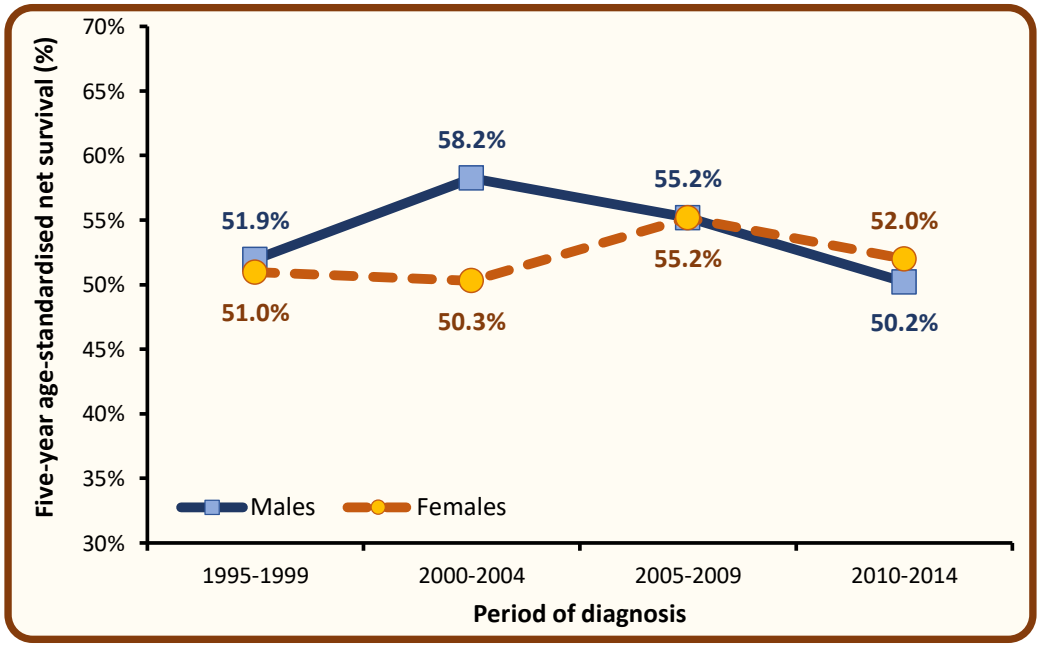
Age-standardised net survival is the proportion of patients who would survive if the patient could not die from causes unrelated to their cancer. This measure is more typically used in studies of cancer survival.



Trends in survival - *Head and neck cancer, Patients diagnosed in 1995-2014*

▪ Among men five-year survival (ASNS) from head and neck cancer decreased from 55.2% in 2005-2009 to 50.2% in 2010-2014. This difference was not statistically significant.

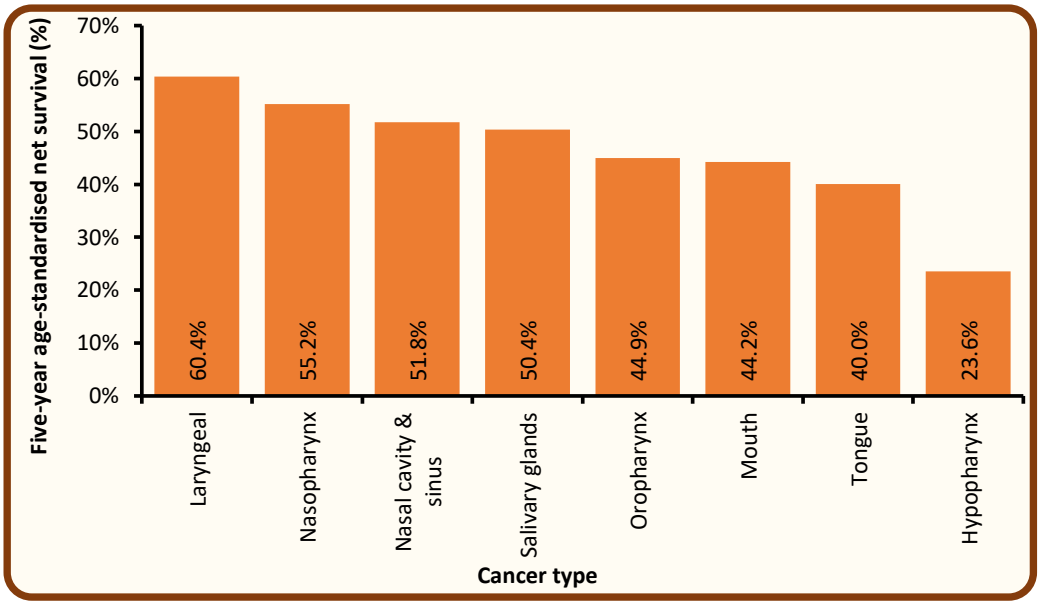
▪ Among women five-year survival (ASNS) from head and neck cancer decreased from 55.2% in 2005-2009 to 52.0% in 2010-2014. This difference was not statistically significant.



Survival by cancer type - *Head and neck cancer, Patients diagnosed in 2010-2014*

▪ Five-year survival (ASNS) for patients diagnosed in 2010-2014 ranged from 60.4% for laryngeal cancer to 23.6% for hypopharyngeal cancer.

▪ In particular five-year survival (ASNS) for the most common head and neck cancer types was 60.4% for laryngeal cancer, 40.0% for cancer of the tongue, 44.2% for cancer of the mouth and 44.9% for oropharyngeal cancer.

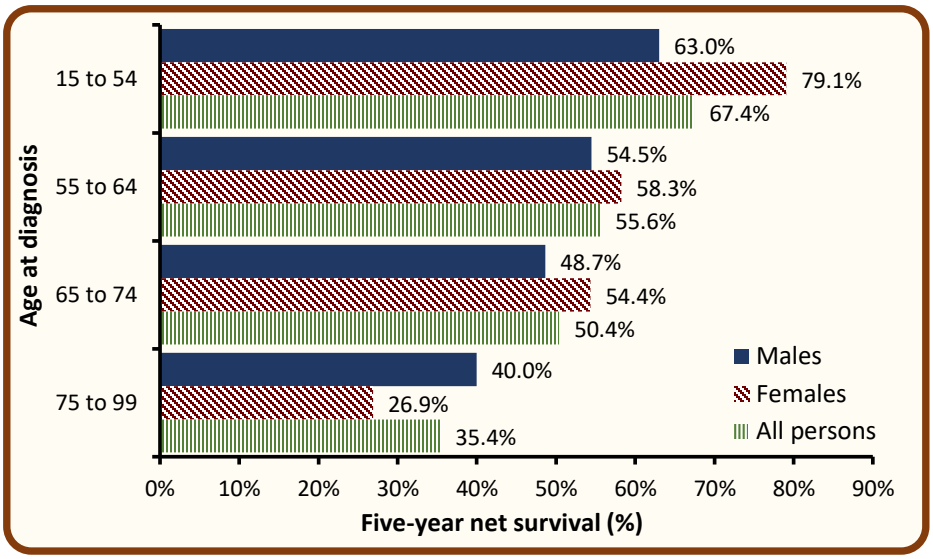


Survival by age at diagnosis - *Head and neck cancer, Patients diagnosed in 2010-2014*

▪ Survival from head and neck cancer among patients diagnosed in 2010-2014 was strongly related to age with five-year survival decreasing as age increases.

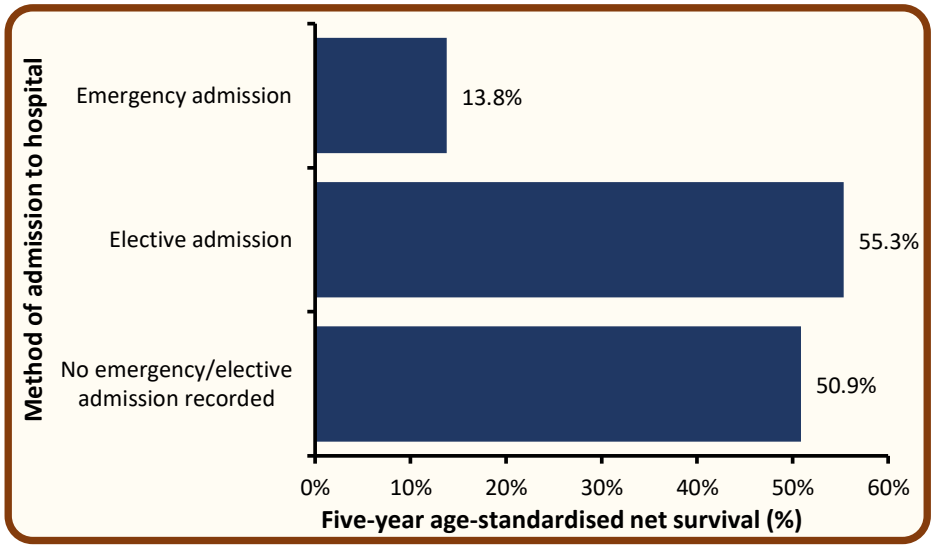
▪ Five-year net survival ranged from 67.4% among patients aged 15 to 54 at diagnosis to 35.4% among those aged 75 and over.

▪ Five-year net survival among patients aged 75 and over was 40.0% for men and 26.9% for women.



Survival by method of most recent admission to hospital - *Head and neck cancer, Patients diagnosed in 2010-2014*

▪ Five-year survival (ASNS) among head and neck cancer patients who had an emergency admission to hospital up to 30 days prior to their cancer diagnosis was 13.8% compared to 55.3% among those with elective admissions and 50.9% among those who had no hospital admissions recorded up to 30 days prior to diagnosis.

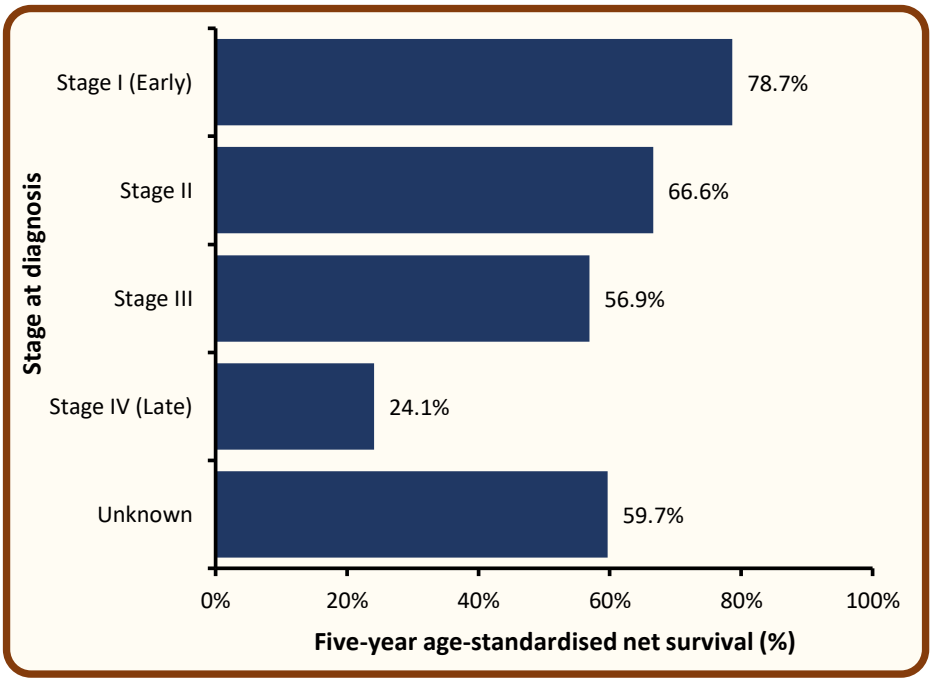


Survival by stage at diagnosis - *Head and neck cancer, Patients diagnosed in 2010-2014*

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

▪ Five-year survival (ASNS) ranged from 78.7% for early stage (stage I) disease to 24.1% for late stage (stage IV) disease.

▪ Five-year survival (ASNS) for unstaged cancer was 59.7%.



Prevalence

▪ At the end of 2019, there were 2,399 people (Males: 1,635; Females: 764) living with head and neck cancer who had been diagnosed with the disease during 1995-2019.

▪ Of these, 68.2% were male, 26.9% were aged 75 and over, and 13.9% had been diagnosed in the previous year.

25-year prevalence refers to the number of cancer survivors who were alive at the end of 2019, and had been diagnosed with their cancer in the previous 25 years (i.e. 1995-2019).

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	177	88	265	47	21	68	224	109	333
1-5 years	440	202	642	114	51	165	554	253	807
5-10 years	278	140	418	108	47	155	386	187	573
10-25 years	290	138	428	181	77	258	471	215	686
0-25 years	1,185	568	1,753	450	196	646	1,635	764	2,399

Trends in 10-year prevalence - *Head and neck cancer, Patients alive at end of each year from 2010-2019*

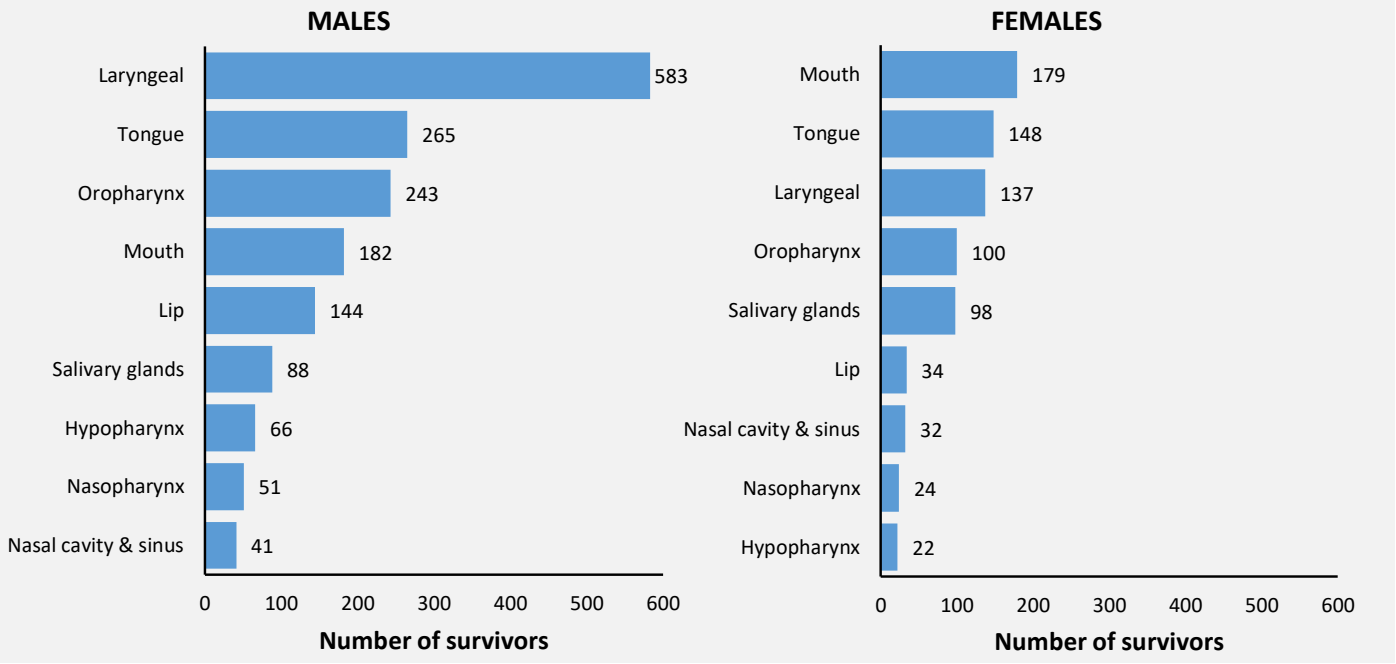
▪ Among males the number of survivors from head and neck cancer who had been diagnosed within the previous ten years increased by 15.5% from 1,008 survivors in 2014 to 1,164 survivors in 2019.

▪ Among females the number of survivors from head and neck cancer who had been diagnosed within the previous ten years increased by 18.8% from 462 survivors in 2014 to 549 survivors in 2019.

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Male	910	945	973	1,000	1,008	1,042	1,042	1,075	1,135	1,164
Female	386	427	457	467	462	470	478	473	510	549
Both sexes	1,296	1,372	1,430	1,467	1,470	1,512	1,520	1,548	1,645	1,713

25-year prevalence by cancer type - *Head and neck cancer, Patients alive at end of 2019*

The most prevalent head and neck cancer types among male survivors at the end of 2019, were laryngeal cancer (583 survivors) and cancer of the tongue (265 survivors), while the most prevalent cancer types among female head and neck cancer survivors were cancer of the mouth (179 survivors) and cancer of the tongue (148 survivors).



Mortality

- During 2015-2019 there were 95 male and 40 female deaths from head and neck cancer each year.
- Head and neck cancer made up 4.1% of all male, and 1.9% of all female cancer deaths (ex NMSC).

Deaths by age at death - *Head and neck cancer, Deaths in 2015-2019*

- The median age at death during 2015-2019 was 69 for men and 70 for women.
- Risk of death from head and neck cancer was strongly related to age, with 29.5% of men and 37.5% of women aged 75 years or more at time of death.
- 9.6% of head and neck cancer occurred among those aged under 55.

Age at death	Average deaths per year		
	Male	Female	Both sexes
0 - 54	8	4	13
55 - 64	23	9	31
65 - 74	35	12	46
75 +	28	15	44
All ages	95	40	135

Deaths by year of death - *Head and neck cancer, Deaths in 2010-2019*

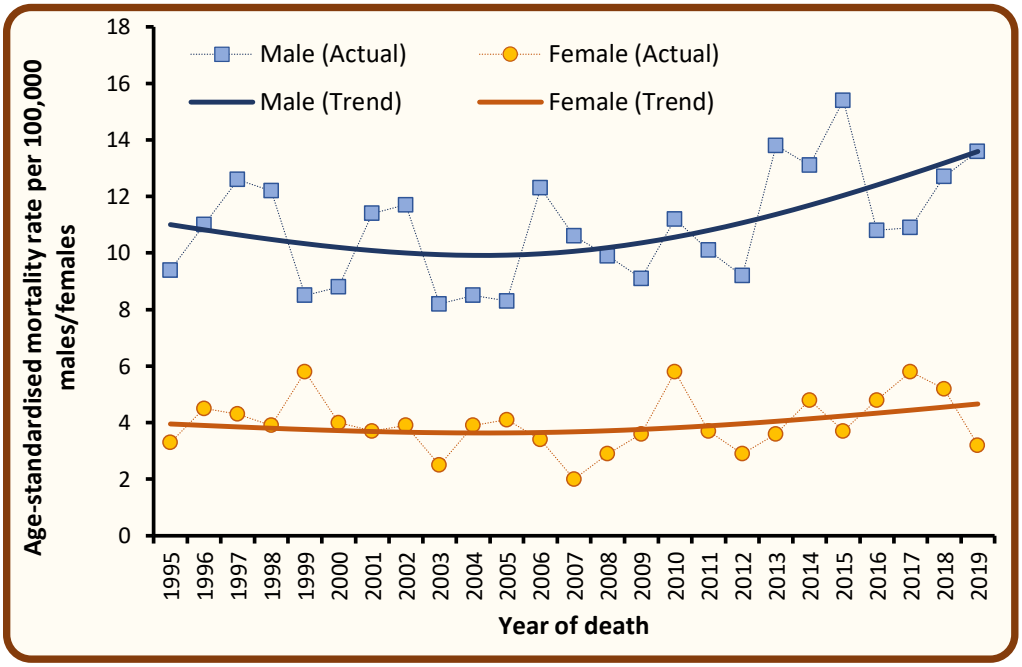
- Among males the number of deaths from head and neck cancer increased by 25.0% from an annual average of 76 deaths in 2010-2014 to 95 deaths in 2015-2019.
- Among females the number of deaths from head and neck cancer increased by 17.6% from an annual average of 34 deaths in 2010-2014 to 40 deaths in 2015-2019.

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Male	68	65	63	93	90	109	83	82	96	105
Female	47	30	23	30	39	31	42	50	46	30
Both sexes	115	95	86	123	129	140	125	132	142	135

Trends in age-standardised mortality rates - *Head and neck cancer, Deaths in 1995-2019*

▪ Among males age-standardised mortality rates from head and neck cancer increased by 10.4% between 2010-2014 and 2015-2019 from 11.5 to 12.7 deaths per 100,000 persons years. This difference was not statistically significant.

▪ Among females age-standardised mortality rates from head and neck cancer increased by 9.8% between 2010-2014 and 2015-2019 from 4.1 to 4.5 deaths per 100,000 persons years. This difference was not statistically significant.



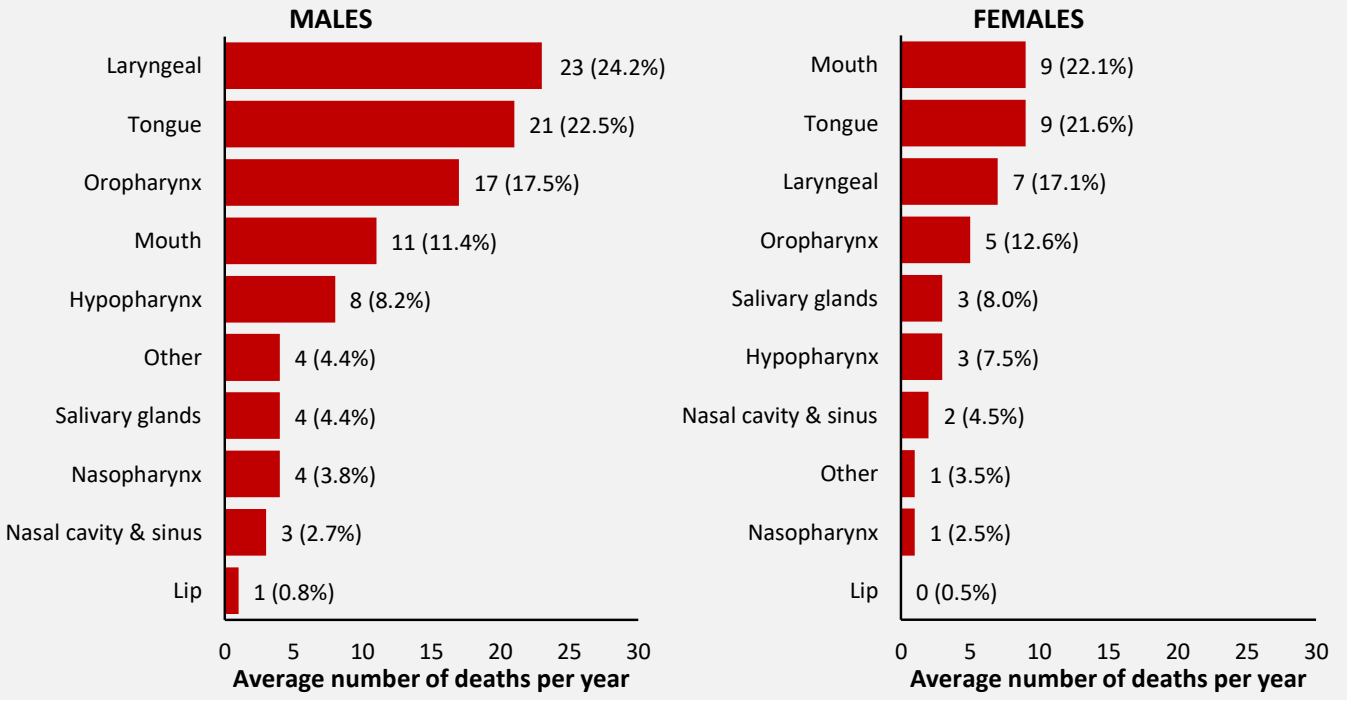
Mortality data are provided by the Northern Ireland General Registrar Office via the Department of Health.

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.

Deaths by cancer type - *Head and neck cancer, Deaths in 2015-2019*

The most common causes of head and neck cancer death among men were laryngeal cancer (24.2%), cancer of the tongue (22.5%) and oropharyngeal cancer (17.5%), while the most common causes of head and neck cancer death among women were cancer of the mouth (22.1%), cancer of the tongue (21.6%) and laryngeal cancer (17.1%).



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 2019 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.