

# Laryngeal Cancer in Ohio

---

August 2025



Department of  
Health

## Key Findings

- An average of 572 new laryngeal cancer cases and 182 deaths occurred each year in Ohio from 2018 through 2022.
- Ohio's laryngeal cancer incidence rate (3.6 per 100,000 population) was 44% higher than the U.S. (SEER) rate (2.5 per 100,000).
- Laryngeal cancer occurs much more often in men than in women in Ohio and the United States.
- Black people have the highest laryngeal cancer incidence and mortality rates of the major racial groups in Ohio and the United States.
- Laryngeal cancer was most frequently diagnosed among older adults (ages 55 to 64) in Ohio.
- Incidence rates of laryngeal cancer among Ohio men and women decreased substantially from 1996 to 2022.
- Overall, 63% of people diagnosed with laryngeal cancer in Ohio survive five years or more after diagnosis.
- Nearly 80% of laryngeal cancer deaths among adults age 30 years and older are attributable to cigarette smoking.

## New Cases

Laryngeal cancer forms in the tissues of the larynx, a part of the throat between the base of the tongue and the trachea that contains the vocal cords. Laryngeal cancer made up 0.8% of all newly diagnosed (incidence) cancer cases, as reported to the Ohio Cancer Incidence Surveillance System (OCISS), from 2018 through 2022.<sup>1</sup> An average of 572 new cases of laryngeal cancer were diagnosed annually in Ohio. Ohio's laryngeal cancer incidence rate of 3.6 per 100,000 population was 44% higher than the national rate of 2.5 per 100,000. The laryngeal cancer incidence rate among males in Ohio was nearly four times higher than the rate among females and higher for Black Ohioans and those age 65 years and older (Table 1).

## Deaths

An average of 182 deaths from laryngeal cancer occurred each year in Ohio from 2018 through 2022, accounting for 0.7% of all cancer-related deaths. The Ohio laryngeal cancer mortality rate of 1.1 per 100,000 population was 22% higher than the U.S. rate of 0.9 per 100,000. Similar to incidence, laryngeal cancer mortality rates were higher among males, Black Ohioans, and those age 65 years and older (Table 1).

**Lifetime Risk: Approximately one out of 196 men and one out of 833 women will be diagnosed with laryngeal cancer at some point during their lifetime.**

<sup>1</sup> Due to the complexity of the cancer data collection and quality control process, there is typically a 24-month delay between the time a new cancer is diagnosed and the time the data is ready for analysis. Therefore, the most recent incidence data presented in this report is for cancer cases diagnosed through Dec. 31, 2022.

**Table 1.** Average Annual Number and Age-Adjusted Rates of Laryngeal Cancer Cases and Deaths per 100,000 Population by Sex, Race, Ethnicity, and Age Group, Ohio and the United States, 2018-2022

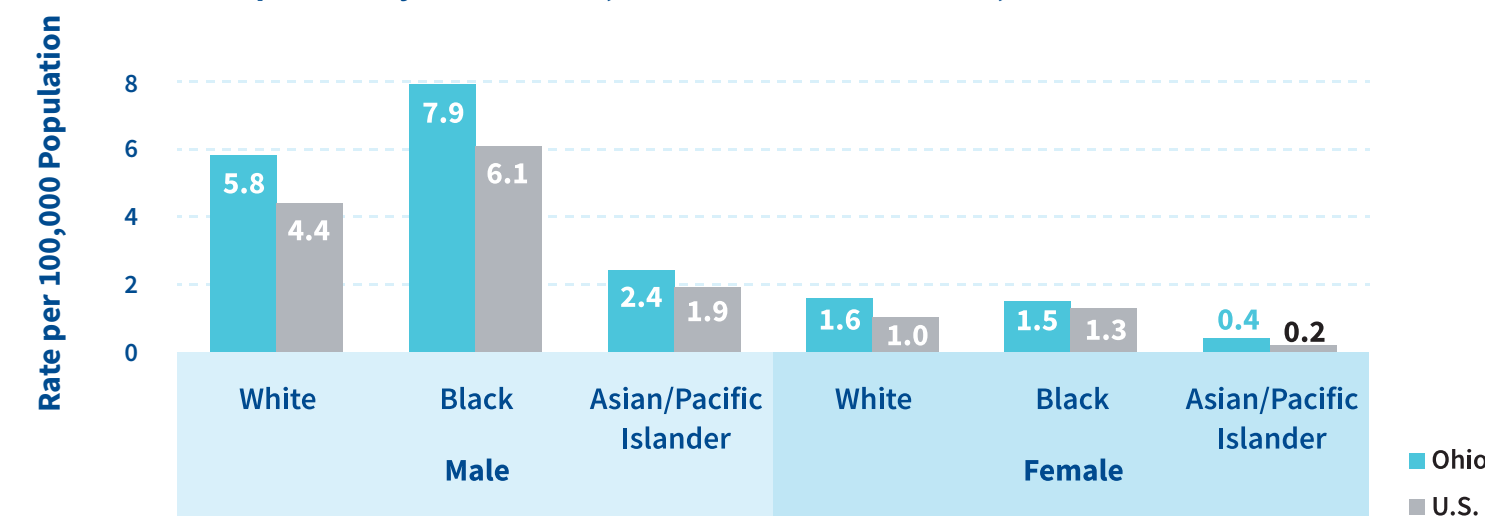
		Incidence			Mortality		
		Ohio Cases	Ohio Rate	U.S. Rate	Ohio Deaths	Ohio Rate	U.S. Rate
Total		572	3.6	2.5	182	1.1	0.9
Sex	Male	444	6.0	4.4	145	2.0	1.6
	Female	128	1.6	1.0	37	0.4	0.3
Race	White	495	3.6	2.6	157	1.1	0.9
	Black	70	4.2	3.3	24	1.5	1.3
	Asian/Pacific Islander	3	1.3	1.0	<2	*	0.3
Ethnicity	Hispanic	7	2.0	1.9	0	0.8	0.6
Age Group	<65	282	2.1	1.2	67	0.5	0.3
	65+	290	13.9	11.8	115	5.6	4.8

Sources: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2025; Surveillance, Epidemiology, and End Results (SEER) Program, SEER\*Stat Database: Incidence – SEER Research Limited-Field Data, 21 Registries, National Cancer Institute, 2025; SEER\*Stat Database: Mortality – All Causes of Death, National Cancer Institute, 2024.

## Incidence by Sex and Race

Black males had the highest laryngeal cancer incidence rate in Ohio (7.9 per 100,000 population) and the United States (6.1 per 100,000) among each sex/race group, based on data from 2018 to 2022. Asian/Pacific Islander females had the lowest incidence rate for laryngeal cancer in Ohio (0.4 per 100,000) during this time period (Figure 1).

**Figure 1.** Average Annual Age-Adjusted Incidence Rates of Laryngeal Cancer per 100,000 Population by Sex and Race, Ohio and the United States, 2018-2022

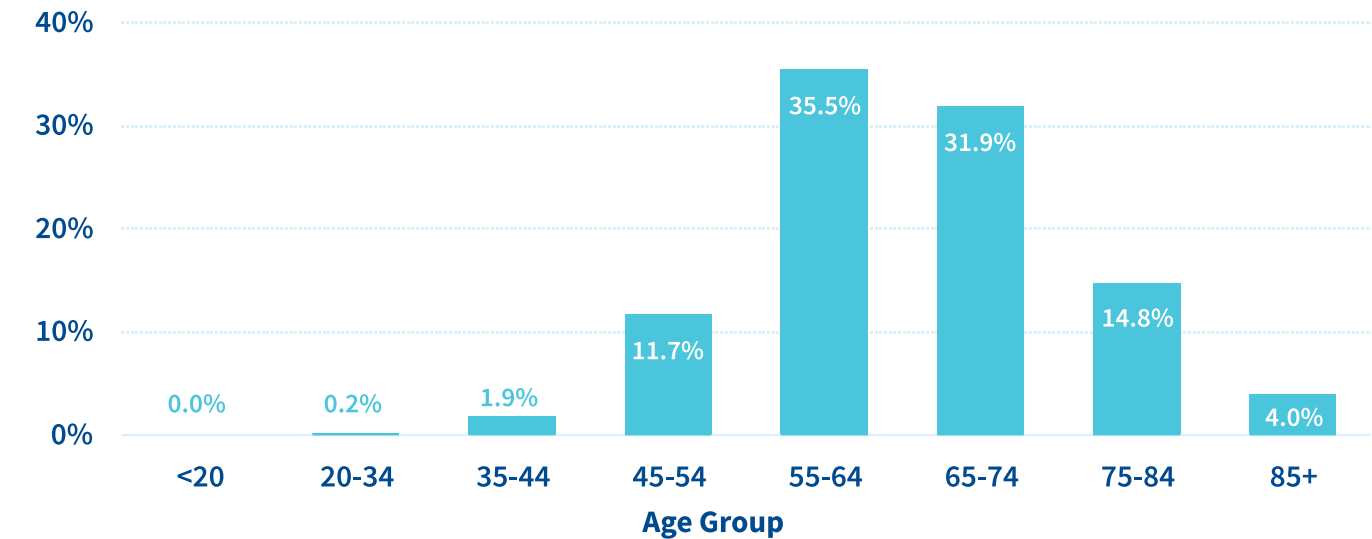


Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2025; Surveillance, Epidemiology, and End Results (SEER) Program SEER\*Stat Database: Incidence – SEER Research Limited-Field Data, 21 Registries, National Cancer Institute, 2025.

## Incidence by Age Group

As shown in Figure 2, laryngeal cancer in Ohio was most frequently diagnosed among people ages 55 to 64 (35.5%).

**Figure 2.** Percent of New Cases of Laryngeal Cancer by Age Group, Ohio, 2018-2022

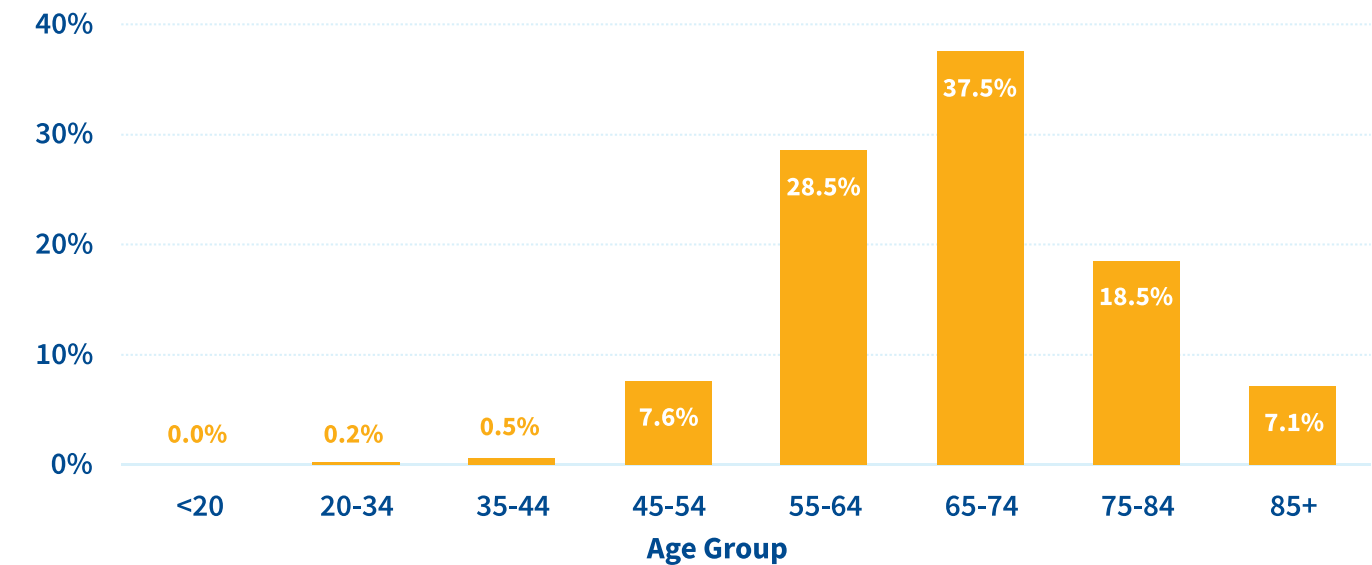


Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2025.

## Mortality by Age Group

As shown in Figure 3, laryngeal cancer deaths in Ohio most frequently occurred among people ages 65 to 74 (37.5%).

**Figure 3.** Percent of Laryngeal Cancer Deaths by Age Group, Ohio, 2018-2022

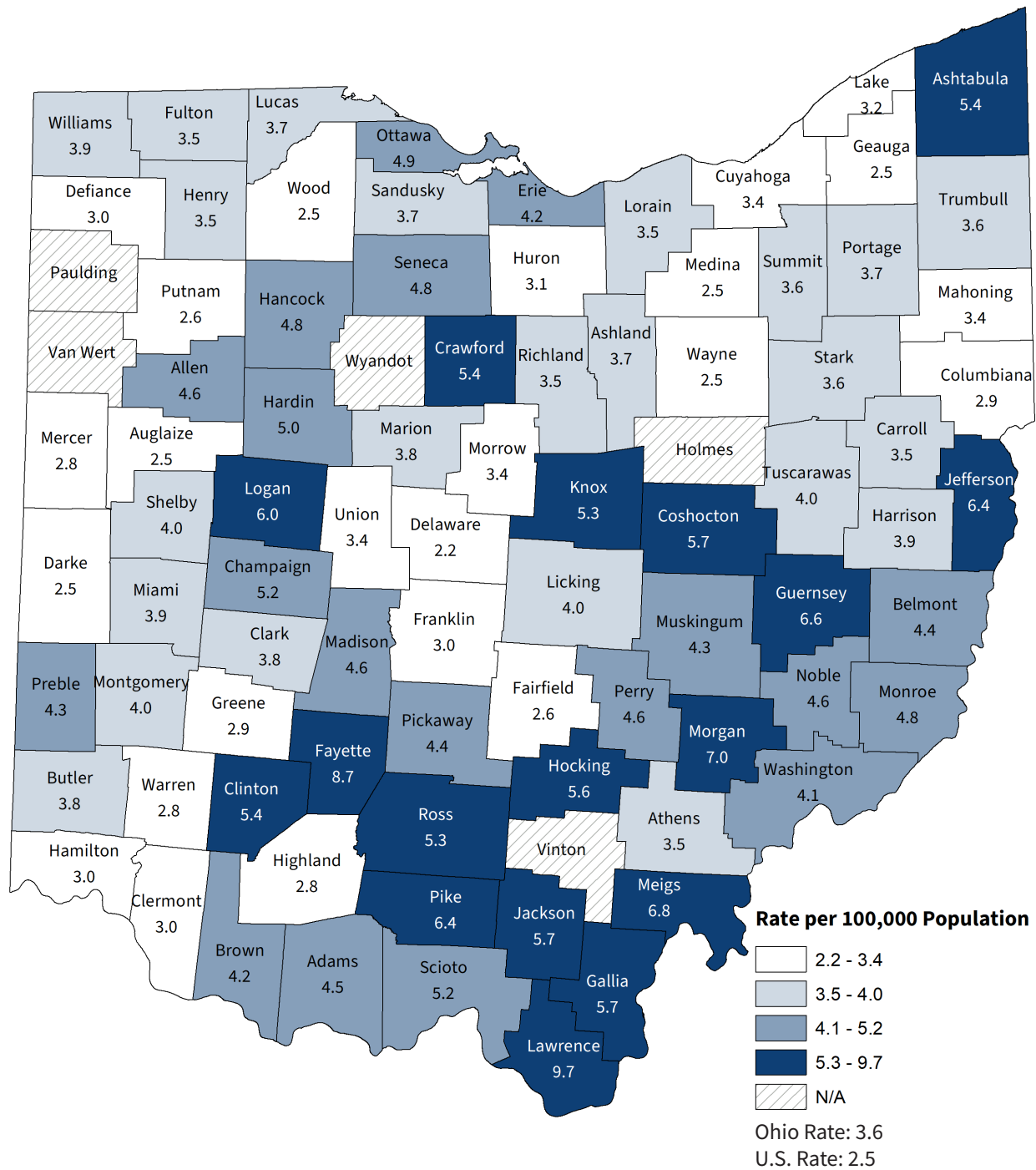


Source: Surveillance, Epidemiology, and End Results (SEER) Program, SEER\*Stat Database: Mortality – All Causes of Death, National Cancer Institute, 2024.

# Laryngeal Cancer Incidence by County

County-specific laryngeal cancer incidence rates in Ohio ranged from 2.2 to 9.7 per 100,000 population, compared with Ohio’s rate of 3.6 per 100,000. Incidence rates for laryngeal cancer were higher in southern counties in Ohio during the five-year period 2018-2022 (Figure 4). Data used to generate this map can be found in Table 2 on page 9 of this document.

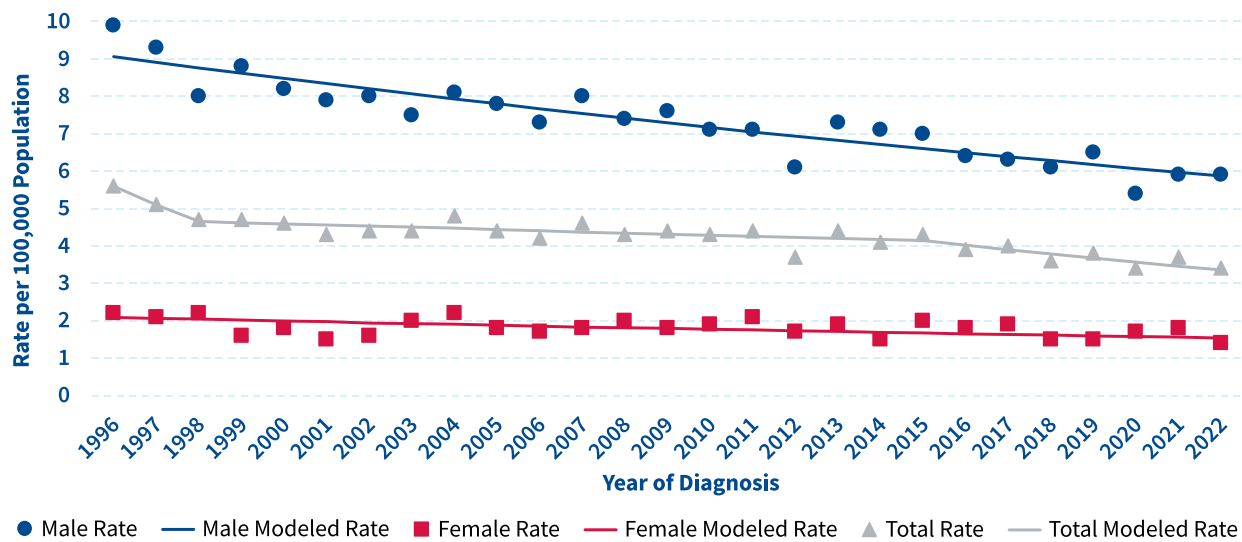
**Figure 4.** Average Annual Age-Adjusted Incidence Rates of Laryngeal Cancer per 100,000 Population by County of Residence, Ohio, 2018-2022



## Trends

Incidence rates of laryngeal cancer among men in Ohio decreased an average of 1.7% per year from 1996 to 2022, while incidence rates among women decreased an average of 1.2% per year during this time period. In recent years, from 2015 to 2022, overall laryngeal cancer incidence rates in Ohio decreased an average of 3.0% per year (Figure 5).

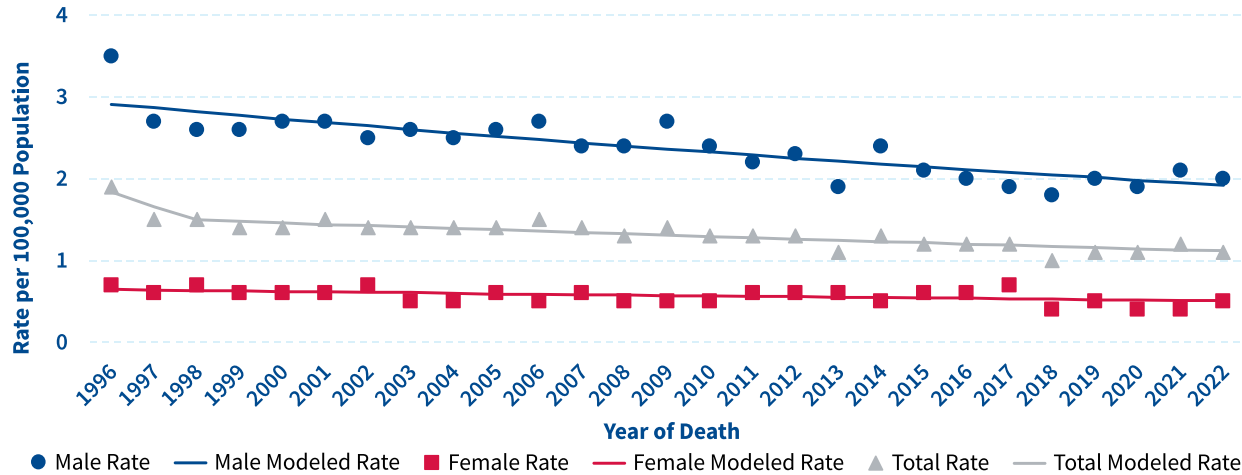
**Figure 5.** Trends in Age-Adjusted Incidence Rates of Laryngeal Cancer per 100,000 Population by Sex and Race, Ohio, 1996-2022



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2025. Modeled trend lines were calculated using [Joinpoint Trend Analysis Software](#), National Cancer Institute, 2025.

Death rates of laryngeal cancer among men in Ohio decreased an average of 1.6% per year from 1996 to 2022, while death rates among women decreased an average of 0.9% per year during this time period. Overall, laryngeal cancer mortality rates decreased 1.2% per year from 1998 to 2022 (Figure 6).

**Figure 6.** Trends in Age-Adjusted Mortality Rates of Laryngeal Cancer per 100,000 Population by Sex and Race, Ohio, 1996-2022

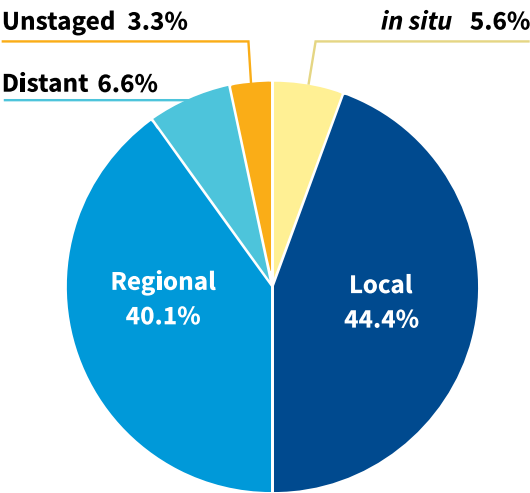


Source: Surveillance, Epidemiology, and End Results (SEER) Program SEER\*Stat Database: Mortality – All Causes of Death, National Cancer Institute, 2024. Modeled trend lines were calculated using [Joinpoint Trend Analysis Software](#), National Cancer Institute, 2025.

## Stage at Diagnosis

Cancer stage at diagnosis refers to the extent or spread of a cancer in the body and is an important determinant of survival. If cancer cells are present only in the layer of cells (tissue) where they developed and have not spread, the stage is *in situ*. If cancer cells have penetrated beyond the original layer of tissue, the cancer has become invasive and is categorized as local, regional, or distant based on the extent of spread.

**Figure 7.** Proportion of Laryngeal Cancer Cases (%) by Stage at Diagnosis, Ohio, 2018-2022



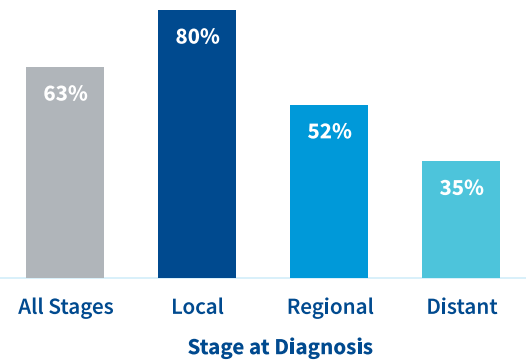
In Ohio, 5.6% of laryngeal cancer cases were *in situ*, 44.4% were diagnosed at a local stage, 40.1% were regional stage, 6.6% were distant stage, and 3.3% were unstaged or of unknown stage at diagnosis (Figure 7).

Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2025.

## Survival

In general, cancer survival is estimated as the proportion of people alive at some point after cancer diagnosis, usually five years. Five-year relative survival, the estimate used here, compares the survival of people diagnosed with cancer with the survival of people in the general population who are the same age, race, and sex, and who have not been diagnosed with cancer.

**Figure 8.** Five-Year Relative Survival (%) for Laryngeal Cancer by Stage at Diagnosis, Ohio, 2015-2021



For all stages combined, the five-year relative survival for laryngeal cancer was 63% in Ohio from 2015 through 2021. The five-year relative survival was 80% among those diagnosed at a local stage, 52% at the regional stage, and 35% when the cancer was diagnosed at the latest (distant) stage (Figure 8).

Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2025.

## Laryngeal Cancer by Site

---

There are three main parts of the larynx:

- **Glottis:** The middle part of the larynx where the vocal cords are located. In Ohio, 47% of cases were diagnosed in the glottis.
- **Supraglottis:** The upper part of the larynx above the vocal cords, including the epiglottis, the flap that covers the trachea during swallowing so that food does not enter the lungs. In Ohio, 44% of cases were diagnosed in the supraglottis.
- **Subglottis:** The lower part of the larynx between the vocal cords and the trachea (windpipe). In Ohio, 1.8% of cases occurred in this area.

Other sites in the larynx where cancer was diagnosed among Ohio cases from 2018 to 2022 include larynx, not otherwise specified (5.2%), overlapping lesion of larynx (1.7%), and laryngeal cartilage (0.6%).

## Laryngeal Cancer by Type

---

Most laryngeal cancers form in squamous cells, the thin, flat cells lining the inside of the larynx. In Ohio, nearly 94% of cases were squamous cell carcinomas.

## Risk Factors

---

Anything that increases the chance of getting a disease is called a risk factor. Having one or more risk factors does not mean that a person will develop the disease.

**Use of tobacco products and drinking too much alcohol can affect the risk of laryngeal cancer.**

Approximately 80% of laryngeal cancer deaths among adults 30 years old and older are attributable to cigarette smoking.\*

\* Islami F, Marlow EC, Thomson B, et al. Proportion and number of cancer cases and deaths attributable to potentially modifiable risk factors in the United States, 2019. CA Cancer J Clin. 2024;74(5):405-432. <https://doi.org/10.3322/caac.21858>.

## Signs and Symptoms

---

Signs and symptoms of laryngeal cancer include:

- A sore throat or cough that does not go away.
- Trouble or pain when swallowing.
- Ear pain.
- A lump in the neck or throat.
- A change or hoarseness in the voice.

It is possible that one or more of these signs and symptoms may be the result of other health problems. If you have any of these symptoms, you should consult with your healthcare provider.

Reference: [Laryngeal Cancer Treatment - NCI](#).



**Age-Adjusted Rate:** A summary rate that is a weighted average of age-specific rates, where the weights represent the age distribution of a standard population (direct adjustment). The incidence and mortality rates presented in this report were standardized to the age distribution of the 2000 U.S. Standard Population. Using the direct method, the population was first divided into 19 age groups, i.e., <1, 1-4, 5-9, 10-14, 15-19 ... 85+, and the age-specific rate was calculated for each age group. Each age-specific rate was then multiplied by the standard population proportion for the respective age group.

**Average Annual Number:** The number of cases or deaths diagnosed per year, on average, for the time period of interest (e.g., 2018-2022). Average annual numbers are calculated by summing the number of cases or deaths for a given time period, dividing by the number of years that comprise the time period, and rounding to the nearest whole number.

**Population Data Used to Calculate Rates:** Population estimates were provided by the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) Program. The 1990-2022 county-level population estimates include 19 age groups and four expanded races by origin.

**Incidence:** The number of cases diagnosed during a specified time period (e.g., 2018-2022). Esophageal cancer cases were defined by the International Classification of Diseases for Oncology, Third Edition (ICD-O-3), and categorized by site codes C150-C159, excluding types 9050-9055, 9140, 9590-9992, in accordance with the SEER Program of the National Cancer Institute.

**Invasive Cancer:** Cancer that has spread beyond the layer of tissue in which it developed and is growing into surrounding, healthy tissues. Invasive cancers consist of those diagnosed at the local, regional, distant, and unstaged/unknown stages. Only invasive cancers were included in the calculation of incidence rates in this document.

**Mortality:** The number of deaths during a specified time period (e.g., 2018-2022). Esophageal cancer deaths were defined as follows: International Statistical Classification of Diseases and Related Health Problems, Tenth Edition (ICD-10), codes C150-C159 (1999+) and ICD-9 code 150 for 1996-1998.

**Rate:** The number of cases or deaths per unit of population (e.g., per 100,000 population) during a specified time period (e.g., 2018-2022). Rates may be unstable and are not presented when the case count is less than five or the death count is less than 10.

**Relative Survival:** The percentage of people who are alive at a designated time period (usually five years) after a cancer diagnosis divided by the percentage expected to be alive in the absence of cancer based on normal life expectancy.

**Stage at Diagnosis:** The degree to which a tumor has spread from its site of origin at the time of diagnosis. A system of summary staging is often used to group cases into the following stages:

- **In situ** – Noninvasive cancer that has not penetrated surrounding tissue.
- **Local** – A malignant tumor confined entirely to the organ of origin.
- **Regional** – A malignant tumor that has extended beyond the organ of origin directly into surrounding organs or tissues or into regional lymph nodes.
- **Distant** – A malignant tumor that has spread to parts of the body (distant organs, tissues, and/or lymph nodes) remote from the primary tumor.
- **Unstaged/Unknown** – Insufficient information is available to determine the stage or extent of the disease at diagnosis.

**Table 2. Average Annual Number and Age-Adjusted Rates of Laryngeal Cancer Cases per 100,000 Population by County of Residence, Ohio and the United States, 2018-2022**

	Cases	Rate		Cases	Rate		Cases	Rate
Ohio	572	3.6	Greene	6	2.9	Morrow	2	3.4
U.S.		2.5	Guernsey	3	6.6	Muskingum	5	4.3
Adams	2	4.5	Hamilton	32	3.0	Noble	1	4.6
Allen	7	4.6	Hancock	5	4.8	Ottawa	4	4.9
Ashland	3	3.7	Hardin	2	5.0	Paulding	<1	*
Ashtabula	8	5.4	Harrison	1	3.9	Perry	2	4.6
Athens	2	3.5	Henry	1	3.5	Pickaway	3	4.4
Auglaize	2	2.5	Highland	2	2.8	Pike	3	6.4
Belmont	4	4.4	Hocking	2	5.6	Portage	8	3.7
Brown	3	4.2	Holmes	<1	*	Preble	3	4.3
Butler	19	3.8	Huron	2	3.1	Putnam	1	2.6
Carroll	1	3.5	Jackson	3	5.7	Richland	6	3.5
Champaign	3	5.2	Jefferson	6	6.4	Ross	6	5.3
Clark	7	3.8	Knox	4	5.3	Sandusky	3	3.7
Clermont	9	3.0	Lake	11	3.2	Scioto	5	5.2
Clinton	3	5.4	Lawrence	8	9.7	Seneca	3	4.8
Columbiana	4	2.9	Licking	10	4.0	Shelby	2	4.0
Coshocton	3	5.7	Logan	4	6.0	Stark	20	3.6
Crawford	4	5.4	Lorain	15	3.5	Summit	27	3.6
Cuyahoga	59	3.4	Lucas	21	3.7	Trumbull	12	3.6
Darke	2	2.5	Madison	3	4.6	Tuscarawas	6	4.0
Defiance	2	3.0	Mahoning	11	3.4	Union	2	3.4
Delaware	6	2.2	Marion	4	3.8	Van Wert	<1	*
Erie	5	4.2	Medina	7	2.5	Vinton	<1	*
Fairfield	6	2.6	Meigs	2	6.8	Warren	8	2.8
Fayette	3	8.7	Mercer	2	2.8	Washington	4	4.1
Franklin	44	3.0	Miami	6	3.9	Wayne	4	2.5
Fulton	2	3.5	Monroe	1	4.8	Williams	2	3.9
Gallia	2	5.7	Montgomery	29	4.0	Wood	4	2.5
Geauga	4	2.5	Morgan	1	7.0	Wyandot	<1	*

Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2025; Surveillance, Epidemiology, and End Results (SEER) Program, SEER\*Stat Database: Incidence – SEER Research Limited-Field Data, 21 Registries, National Cancer Institute, 2025; SEER\*Stat Database: Mortality – All Causes of Death, National Cancer Institute, 2024.

\* Rate not calculated when the 2018-2022 case count is less than five (i.e., the average annual count is less than one).

## Sources of Data and Additional Information

---

**Ohio Cancer Incidence Surveillance System**  
[Ohio Cancer Incidence Surveillance System \(OCISS\)](#)

**National Cancer Institute**  
[Laryngeal Cancer Treatment - Patient Version](#)

**American Cancer Society**  
[Laryngeal and Hypopharyngeal Cancer Webpage](#)

### To address comments and information requests:

#### **Ohio Cancer Incidence Surveillance System (OCISS)**

##### **Ohio Department of Health**

246 North High Street  
Columbus, OH 43215

**Phone:** (614) 752-2689

**E-mail:** [ociss@odh.ohio.gov](mailto:ociss@odh.ohio.gov)

### Acknowledgments

#### **Ohio Department of Health**

Holly L. Sobotka, MS

John Kollman, MS

Sincere appreciation to the OCISS, cancer registrars, medical records technicians, and other health professionals who improve the collection and quality of cancer data in Ohio.

### Suggested Citation

Laryngeal Cancer in Ohio. Ohio Cancer Incidence Surveillance System, Ohio Department of Health, August 2025.

This report is public information. Reproduction and copying of this report for cancer prevention and control, education, and program planning are greatly encouraged. Citation of source is appreciated.

OCISS is supported in part by the State of Ohio and the National Program of Cancer Registries (NPCR) at the Centers for Disease Control and Prevention (CDC) through cooperative agreement number NU58DP007097. The contents are the sole responsibility of the authors and do not necessarily represent the official views of the CDC.