

# Esophageal Cancer in Ohio

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Department of  
Health

## Key Findings

- An average of 911 new esophageal cancer cases and 753 deaths occurred each year in Ohio from 2018 through 2022.
- Ohio's esophageal cancer incidence rate (5.8 per 100,000 population) was 38% higher than the U.S. rate (4.2 per 100,000).
- Esophageal cancer occurs much more often in men than in women in Ohio and the United States.
- White people have the highest esophageal cancer incidence and mortality rates of the major racial groups in Ohio and the United States.
- Esophageal cancer was most frequently diagnosed among older adults (ages 65 to 74) in Ohio.
- Incidence rates of esophageal cancer among Black men and women decreased substantially from 1996 to 2022.
- Overall, 21% of people diagnosed with esophageal cancer in Ohio survive five years or more after diagnosis.
- Nearly 54% of esophageal cancer deaths among adults age 30 years and older are attributable to cigarette smoking.

## New Cases

Esophageal cancer is type of cancer that starts in the tissues of the esophagus. Esophageal cancer made up 1.3% 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 911 new cases of esophageal cancer were diagnosed annually in Ohio. Ohio's esophageal cancer incidence rate of 5.8 per 100,000 population was 38% higher than the national rate of 4.2 per 100,000. The esophageal cancer incidence rate among males was five times higher than the rate among females and higher for White Ohioans and those age 65 years and older (Table 1).

## Deaths

An average of 753 deaths from esophageal cancer occurred each year in Ohio from 2018 through 2022, accounting for 3.0% of all cancer-related deaths. The Ohio esophageal cancer mortality rate of 4.8 per 100,000 population was 30% higher than the U.S. rate of 3.7 per 100,000. Similar to incidence, esophageal cancer mortality rates were higher among males, White Ohioans, and those age 65 years and older (Table 1).

**Lifetime Risk: Approximately 0.7% of men and 0.5% of women will be diagnosed with esophageal 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 Esophageal Cancer Cases and Deaths per 100,000 Population by Sex, Race, Ethnicity, and Age Group, Ohio and the United States, 2018-2022

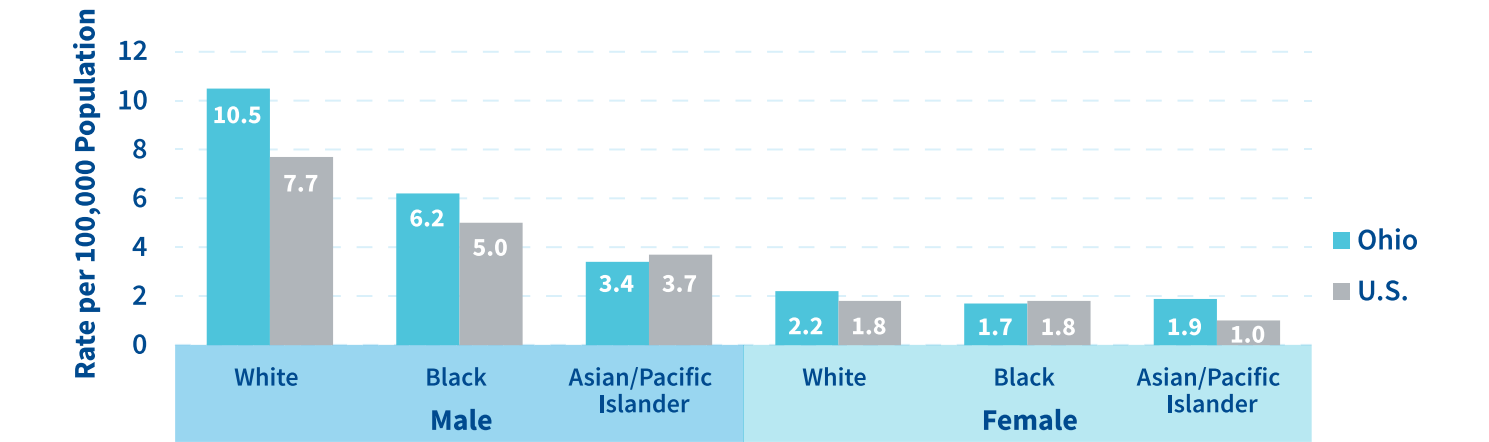
		Incidence			Mortality		
		Ohio Cases	Ohio Rate	U.S. Rate	Ohio Deaths	Ohio Rate	U.S. Rate
Total		911	5.8	4.2	753	4.8	3.7
Sex	Male	733	10.1	7.1	613	8.6	6.5
	Female	179	2.1	1.7	140	1.6	1.4
Race	White	839	6.0	4.5	699	5.0	4.0
	Black	58	3.6	3.2	49	3.1	2.6
	Asian/Pacific Islander	7	2.5	2.2	4	2.0	1.5
Ethnicity	Hispanic	6	2.0	2.8	7	2.7	1.9
Age Group	<65	347	2.6	1.6	250	1.9	1.3
	65+	565	27.8	21.7	502	25.0	20.2

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

White males had the highest esophageal cancer incidence rate in Ohio (10.5 per 100,000 population) and the United States (7.7 per 100,000) among each sex/race group, based on data from 2018 to 2022. Black females had the lowest incidence rate for esophageal cancer in Ohio (1.7 per 100,000) from 2018 to 2022 (Figure 1).

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

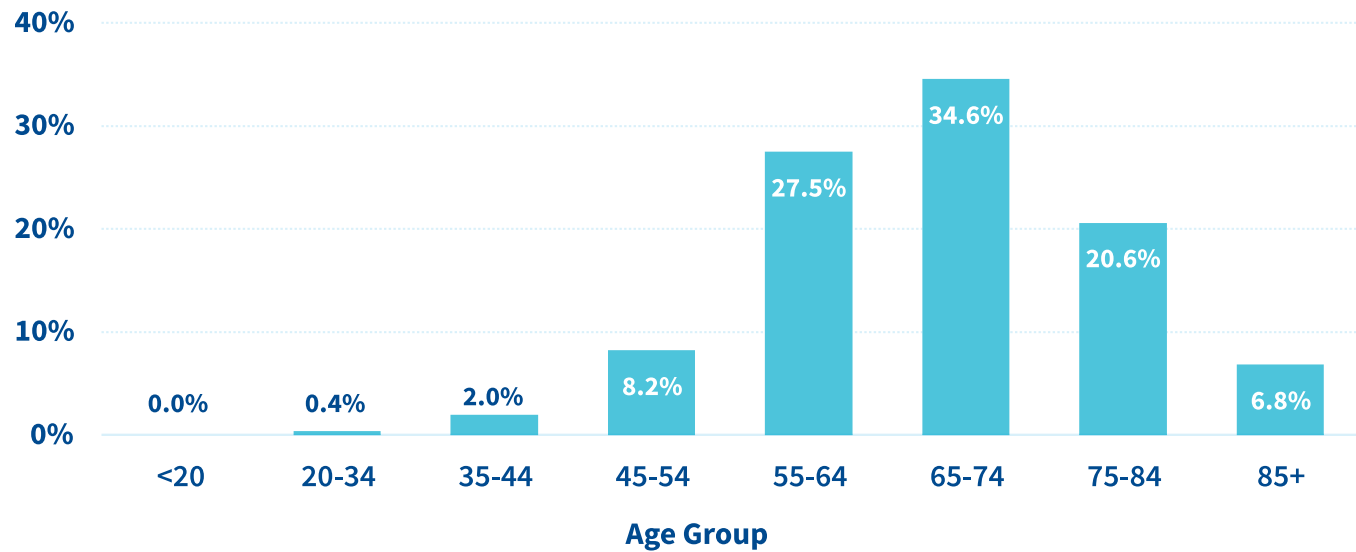


Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2025; Surveillance, Epidemiology, and End Results (SEER) Program SEER\*Stat Database: Incidence – SEER Research Limited-Field Data, 21 Registries, National Cancer Institute, 2025.

## Incidence by Age Group

As shown in Figure 2, esophageal cancers in Ohio were most frequently diagnosed among people ages 65 to 74 (34.6%).

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

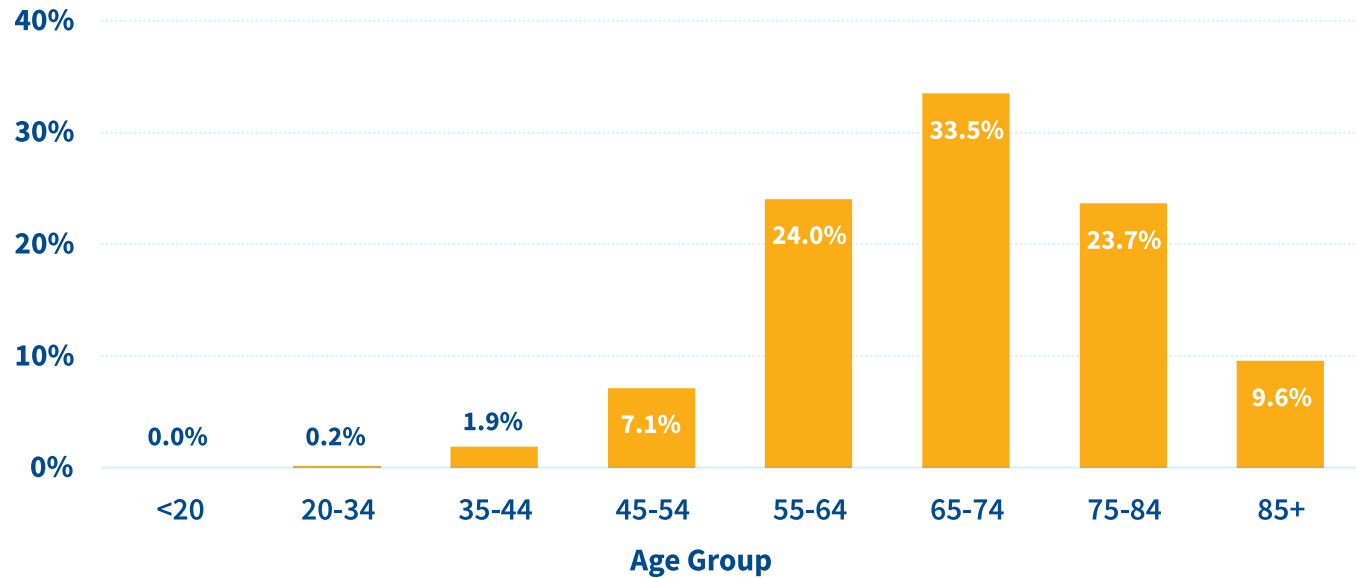


Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2025.

## Mortality by Age Group

As shown in Figure 3, the percentage of esophageal cancer deaths in Ohio is also highest among people ages 65 to 74 (33.5%).

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

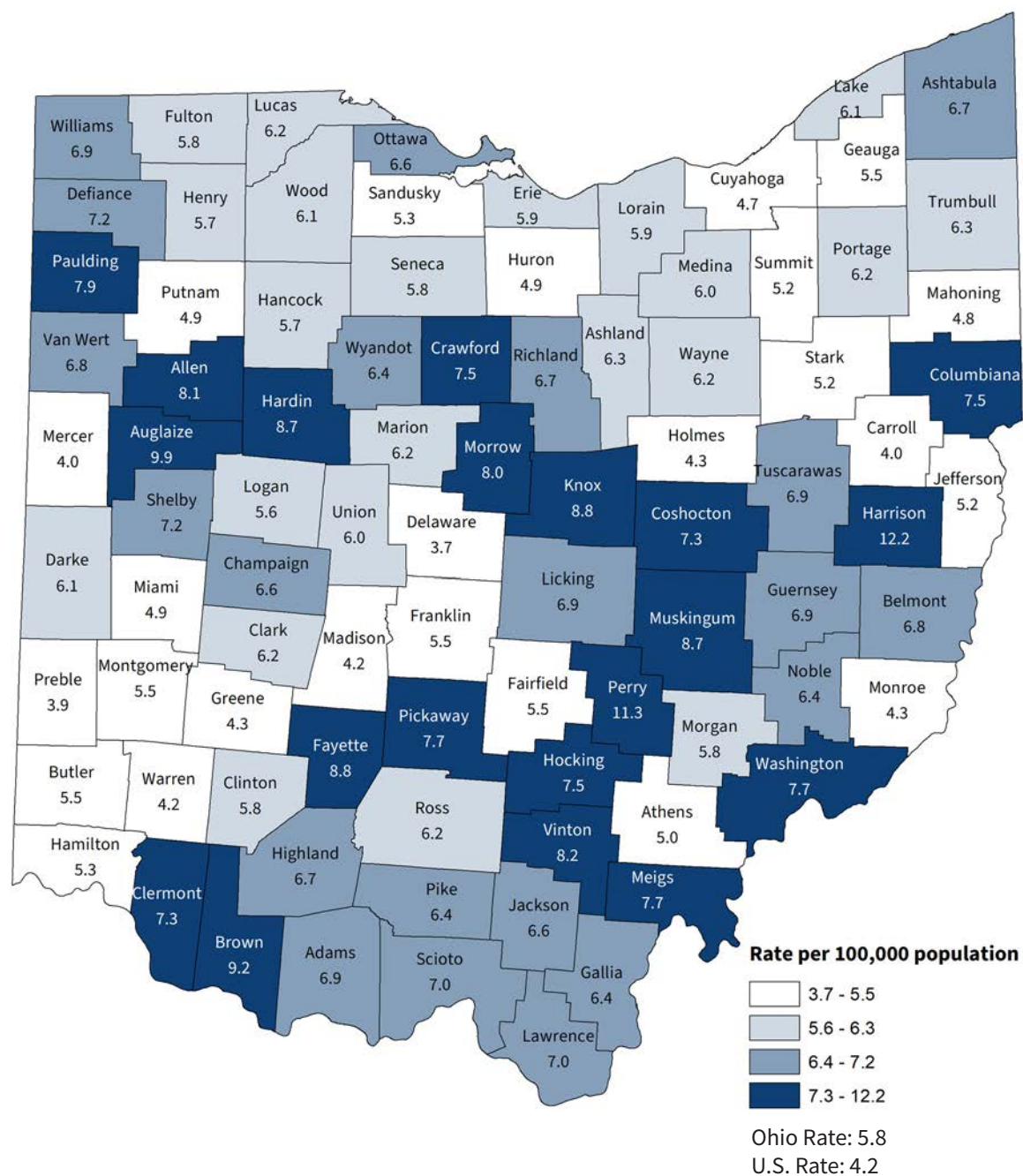


Source: Surveillance, Epidemiology, and End Results (SEER) Program, SEER\*Stat Database: Mortality – All Causes of Death, National Cancer Institute, 2024.

# Esophageal Cancer Incidence by County

County-specific esophageal cancer incidence rates in Ohio ranged from 3.7 to 12.2 per 100,000 population, compared with Ohio’s rate of 5.8 per 100,000. Incidence rates for esophageal cancer were lower in counties with or adjacent to large cities, including Cleveland and Akron (northeastern Ohio), Columbus (central Ohio), and Cincinnati and Dayton (southwestern Ohio) during the five-year period 2018-2022 (Figure 4). Data used to generate this map can be found in [Table 3](#) on page 10 of this document.

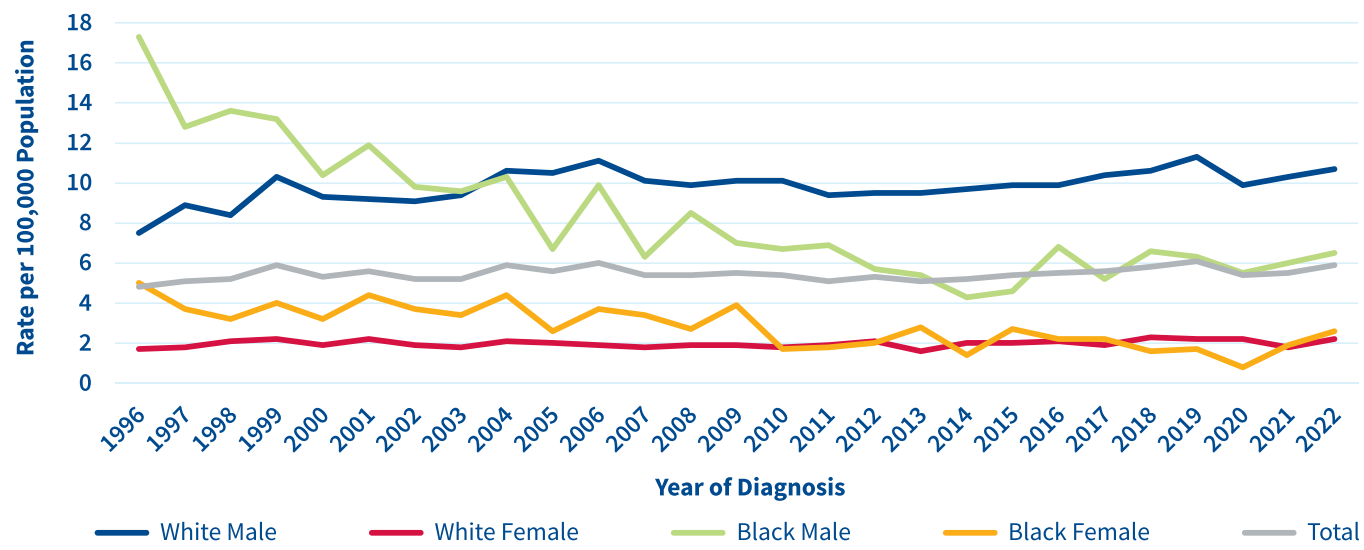
**Figure 4. Average Annual Age-Adjusted Incidence Rates of Esophageal Cancer per 100,000 Population by County of Residence, Ohio, 2018-2022**



# Trends

Overall, esophageal cancer incidence rates remained relatively stable from 1996 to 2022. However, incidence rates of esophageal cancer among Black men and women decreased substantially from 1996 to 2022, while incidence rates among White men increased slightly during this time period (Figure 5).

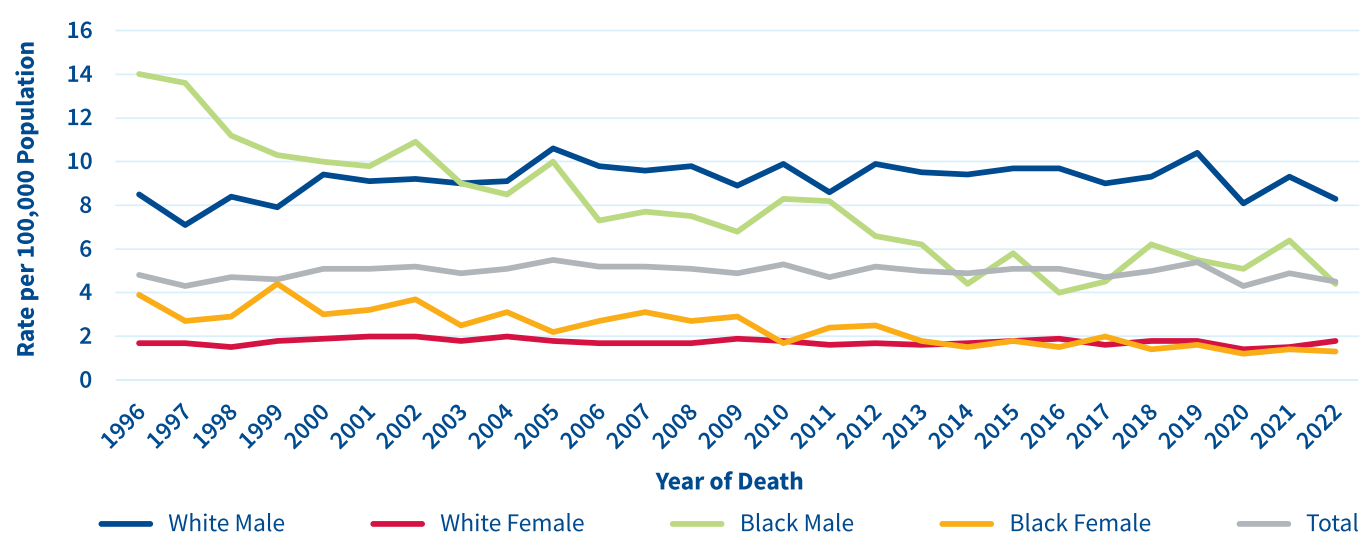
**Figure 5. Trends in Age-Adjusted Incidence Rates of Esophageal Cancer per 100,000 Population by Sex and Race, Ohio, 1996-2022**



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

Overall, esophageal cancer mortality rates remained relatively stable from 1996 to 2022. Similar to incidence, death rates of esophageal cancer among Black men and women decreased substantially from 1996 to 2022, while death rates were variable among White men and relatively stable among White women during this time period (Figure 6).

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

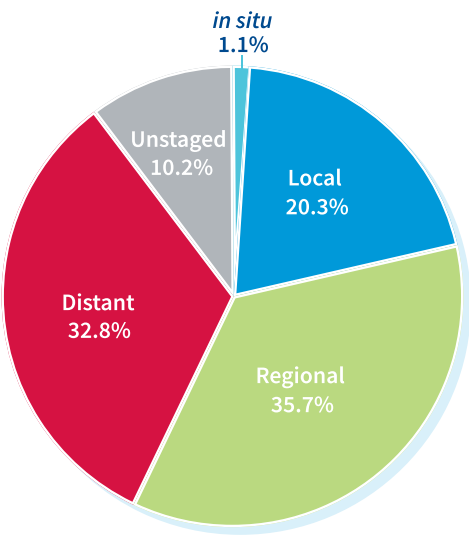


Source: Surveillance, Epidemiology, and End Results (SEER) Program SEER\*Stat Database: Mortality – All Causes of Death, National Cancer Institute, 2024.

## 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 Esophageal Cancer Cases (%) by Stage at Diagnosis, Ohio, 2018-2022**



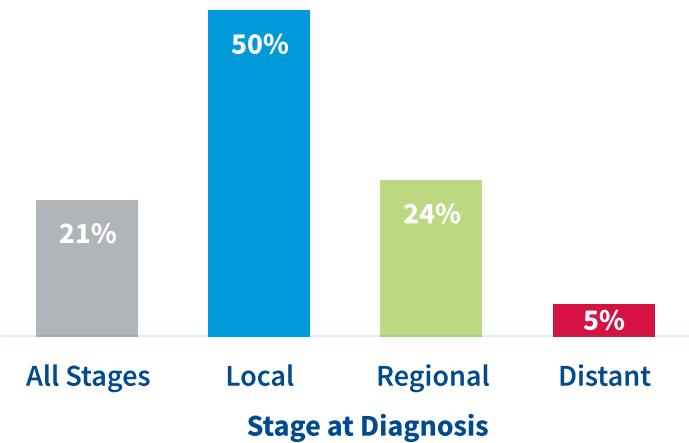
In Ohio, 1.1% of esophageal cancer cases were *in situ*, 20.3% were diagnosed at a local stage, 35.7% were regional stage, 32.8% were distant stage, and 10.2% were unstaged or of unknown stage (Figure 7).

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 Esophageal Cancer by Stage at Diagnosis, Ohio, 2015-2021**



For all stages combined, the five-year relative survival for esophageal cancer was 21% in Ohio from 2015 through 2021. The five-year relative survival was 50% among those diagnosed at a local stage, 24% at the regional stage, and only 5% when the cancer was diagnosed at the latest (distant) stage (Figure 8).

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

## Esophageal Cancer by Site

Esophageal cancer starts in the inner layer of the esophagus wall, grows outward through the other layers, and can occur anywhere along the esophagus. Most esophageal cancers (64.1%) were found in the lower third of the esophagus, based on Ohio cases diagnosed from 2018 through 2022 (Table 2).

**Table 2.** Average Annual Number of Esophageal Cancer Cases by Primary Site, Ohio, 2018-2022

Primary Site	Cases	Percent
Cervical esophagus	7	0.8%
Thoracic esophagus	9	1.0%
Abdominal esophagus	1	0.1%
Upper third of esophagus	36	4.0%
Middle third of esophagus	88	9.7%
Lower third of esophagus	584	64.1%
Overlapping lesion of esophagus	50	5.4%
Esophagus, NOS (not otherwise specified)	136	14.9%
Total	911	

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

## Esophageal Cancer by Type

The two most common types of esophageal cancer are named for the type of cells that become malignant (cancerous):

- **Adenocarcinoma (AC):** Cancer that begins in glandular cells. Glandular cells in the lining of the esophagus produce and release fluids such as mucus. AC of the esophagus usually forms in the lower part of the esophagus, near the stomach. In Ohio, AC is the most common type of esophageal cancer, making up 72% of cases diagnosed from 2018 to 2022.
- **Squamous cell carcinoma (SCC):** Cancer that begins in squamous cells (thin, flat cells that form the surface of the skin, the lining of the hollow organs of the body, and the lining of the respiratory and digestive tracts). SCC is also called epidermoid carcinoma. Esophageal SCC is most often found in the upper and middle part of the esophagus but can occur anywhere along the esophagus. In Ohio, SCC made up about 20% of esophageal cancer cases diagnosed during the same five-year period.



## Risk Factors

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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. Below are some of the risk factors for esophageal cancer.

### Non-modifiable Cancer Risk Factors

- **Age:** The chance of getting esophageal cancer increases with age. Fewer than 15% of cases are found in people younger than age 55.
- **Sex:** Men are much more likely than women to get esophageal cancer.
- **Personal history:** People who have had certain other cancers such as lung cancer, mouth cancer, and throat cancer have a high risk of getting SCC of the esophagus as well. This may be because these cancers can also be caused by smoking.

### Modifiable Cancer Risk Factors

- **Tobacco:** The use of tobacco products, including cigarettes, cigars, pipes, and chewing tobacco, is a major risk factor for SCC of the esophagus. Approximately 54% of esophageal cancer deaths among adults 30 years old and older are attributable to cigarette smoking.
- **Alcohol:** Drinking alcohol increases risk. Combining smoking and drinking alcohol increases the risk of SCC of the esophagus much more than using either alone.
- **Barrett esophagus:** A condition in which the cells lining the lower part of the esophagus have changed or been replaced with abnormal cells that could lead to cancer of the esophagus. Gastric reflux (heartburn) is the most common cause of Barrett esophagus.
- **Overweight or obesity:** People who are overweight or obese have a higher risk of AC of the esophagus.

## Esophageal Cancer Signs and Symptoms

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Signs and symptoms of esophageal cancer include:

- Painful or trouble swallowing.
- Weight loss.
- Pain behind the breastbone.
- Hoarseness and cough.
- Indigestion and heartburn.
- A lump under the skin in the neck or a lump in the esophagus.

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.

## Technical Notes

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

	Incidence		Mortality	
	Cases	Rate	Deaths	Rate
<b>Ohio</b>	<b>911</b>	<b>5.8</b>	<b>753</b>	<b>4.8</b>
<b>U.S.</b>		<b>4.2</b>		<b>3.7</b>
Adams	3	6.9	<2	*
Allen	11	8.1	7	5.4
Ashland	5	6.3	2	2.7
Ashtabula	10	6.7	8	5.4
Athens	3	5.0	3	4.7
Auglaize	6	9.9	6	8.7
Belmont	7	6.8	6	5.5
Brown	6	9.2	6	8.5
Butler	26	5.5	24	5.1
Carroll	1	4.0	<2	*
Champaign	4	6.6	3	5.3
Clark	12	6.2	11	5.7
Clermont	20	7.3	18	6.8
Clinton	3	5.8	<2	*
Columbiana	12	7.5	11	7.0
Coshocton	3	7.3	4	7.6
Crawford	5	7.5	6	8.7
Cuyahoga	86	4.7	70	3.9
Darke	5	6.1	5	6.9
Defiance	4	7.2	3	5.4
Delaware	9	3.7	7	2.7
Erie	7	5.9	5	4.1
Fairfield	12	5.5	10	4.9
Fayette	4	8.8	3	9.0
Franklin	73	5.5	52	4.0
Fulton	4	5.8	3	5.3
Gallia	3	6.4	2	5.0
Geauga	8	5.5	7	4.3
Greene	9	4.3	8	4.2
Guernsey	4	6.9	3	5.6
Hamilton	54	5.3	41	4.1
Hancock	6	5.7	5	5.4
Hardin	3	8.7	3	7.1
Harrison	3	12.2	<2	*
Henry	2	5.7	<2	*
Highland	4	6.7	3	5.6
Hocking	3	7.5	3	6.8
Holmes	2	4.3	<2	*
Huron	4	4.9	5	6.4
Jackson	3	6.6	3	7.9
Jefferson	5	5.2	4	4.0
Knox	8	8.8	5	6.0
Lake	21	6.1	19	5.2
Lawrence	6	7.0	7	8.3
Licking	16	6.9	13	5.7
Logan	4	5.6	3	4.6
Lorain	27	5.9	24	5.3
Lucas	34	6.2	29	5.3
Madison	3	4.2	2	4.6
Mahoning	16	4.8	18	5.1
Marion	6	6.2	5	5.1
Medina	16	6.0	14	5.4
Meigs	2	7.7	<2	*
Mercer	2	4.0	2	3.5
Miami	7	4.9	7	4.8
Monroe	1	4.3	<2	*
Montgomery	41	5.5	30	4.1
Morgan	1	5.8	<2	*
Morrow	4	8.0	3	7.6
Muskingum	11	8.7	7	5.8
Noble	2	6.4	<2	*
Ottawa	4	6.6	3	3.7
Paulding	2	7.9	2	8.6
Perry	5	11.3	4	8.4
Pickaway	5	7.7	4	5.7
Pike	2	6.4	2	5.2
Portage	14	6.2	12	5.6
Preble	2	3.9	2	3.2
Putnam	2	4.9	<2	*
Richland	12	6.7	10	5.2
Ross	7	6.2	6	6.0
Sandusky	5	5.3	5	5.7
Scioto	7	7.0	6	5.6
Seneca	4	5.8	4	5.2
Shelby	4	7.2	3	4.9
Stark	29	5.2	25	4.5
Summit	39	5.2	34	4.4
Trumbull	20	6.3	15	5.0
Tuscarawas	9	6.9	7	5.3
Union	4	6.0	3	5.0
Van Wert	2	6.8	2	5.2
Vinton	2	8.2	<2	*
Warren	13	4.2	9	3.1
Washington	7	7.7	5	5.8
Wayne	9	6.2	8	5.2
Williams	4	6.9	3	4.8
Wood	10	6.1	8	5.1
Wyandot	2	6.4	2	7.4

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 death count is less than 10 (i.e., the average annual count is less than two).

## Sources of Data and Additional Information

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

**National Cancer Institute**  
[Esophageal Cancer—Patient Version - NCI](#)

**American Cancer Society**  
[Esophagus Cancer | American Cancer Society](#)

### 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)

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

Holly L. Sobotka, MS

John Kollman, MS

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