

Uterine Cancer in Ohio 2023

March 2023

Key Findings and Populations at High Risk

- An average of 2,499 invasive and uterine cancer cases were diagnosed each year in Ohio in 2015-2019.
- An average of 446 deaths occurred each year in Ohio due to uterine cancer in 2015-2019.
- In Ohio, white women had the highest incidence rate of uterine cancer, while Black women had the highest mortality rate in 2015-2019.
- Uterine cancer was most frequently diagnosed among Ohio women aged 55 to 64.
- Uterine cancer incidence rates increased 65% among Black women and 20% among white women from 1996 to 2019 in Ohio.
- White women in Ohio were more likely to be diagnosed with uterine cancer at a local stage, while Black women had a higher proportion of cases diagnosed at a distant (late) stage.
- The five-year relative survival for uterine cancer was nearly 72% when diagnosed at an early stage, but only 19% when the cancer was diagnosed at the latest (distant) stage.
- The main type of uterine cancer is endometrial carcinoma.
- An estimated 70% of uterine cancers are attributable to excess body weight and insufficient physical activity.

Incidence and Mortality

New Cases

Cancer that starts in the uterus is called uterine cancer. Uterine cancer made up 3.6% of newly diagnosed (incidence) cancer cases in Ohio reported to the Ohio Cancer Incidence Surveillance System (OCISS) in 2015-2019. An average of 2,499 cases of uterine cancer were diagnosed annually in Ohio during this five-year time period (Table 1). The average annual age-adjusted uterine cancer incidence rate in Ohio was 31.4 cases per 100,000 females and was 13% higher than the national (SEER) incidence rate of 27.8 per 100,000. In Ohio in 2015-2019, the uterine cancer incidence rate was highest among white women (32.0 per 100,000) and lowest among Asian/Pacific Islander women (20.3 per 100,000 females). In Ohio and the United States, uterine cancer incidence rates were about five times higher for women 65 and older than those younger than 65.

Deaths

An average of 446 deaths from uterine cancer occurred each year in Ohio in 2015-2019 (Table 1). Ohio's average annual age-adjusted uterine cancer mortality rate was 5.3 per 100,000, compared to the U.S. mortality rate of 5.0 per 100,000. In contrast to incidence, the mortality rate was higher for Black women (7.8 deaths per 100,000) than white women (5.0 per 100,000 females) and Asians/Pacific Islanders (2.8 per 100,000) in Ohio during this time period. Uterine cancer mortality rates were about 15 times higher for females 65 and older than those younger than 65 in both Ohio and the U.S.

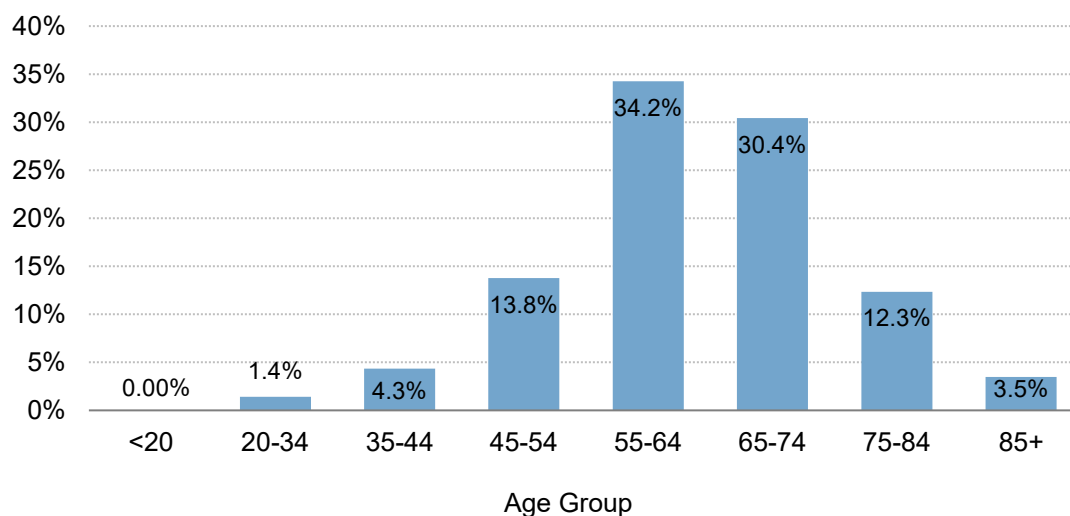
Table 1. Average Annual Number and Age-adjusted Rates of Uterine Cancer Cases and Deaths per 100,000 Females, Ohio and the United States, 2015-2019

		Incidence			Mortality		
		Ohio Cases	Ohio Rate	U.S. Rate	Ohio Deaths	Ohio Rate	U.S. Rate
Total		2,499	31.4	27.8	446	5.3	5.0
Race	White	2,210	32.0	28.0	372	5.0	4.6
	Black	238	26.9	28.6	69	7.8	8.8
	Asian/Pacific Islander	28	20.3	22.3	4	2.8	3.4
Age	<65	1,343	20.6	18.0	130	1.8	1.8
Group	65+	1,156	106.1	95.6	316	29.1	26.8

Source: Ohio Cancer Incidence Surveillance System and Bureau of Vital Statistics, Ohio Department of Health, 2022; Surveillance, Epidemiology, and End Results Program, National Cancer Institute, 2022.

Uterine Cancer Incidence by Age Group

Figure 1. Percentage of Uterine Cancer Cases by Age Group, Ohio, 2015-2019

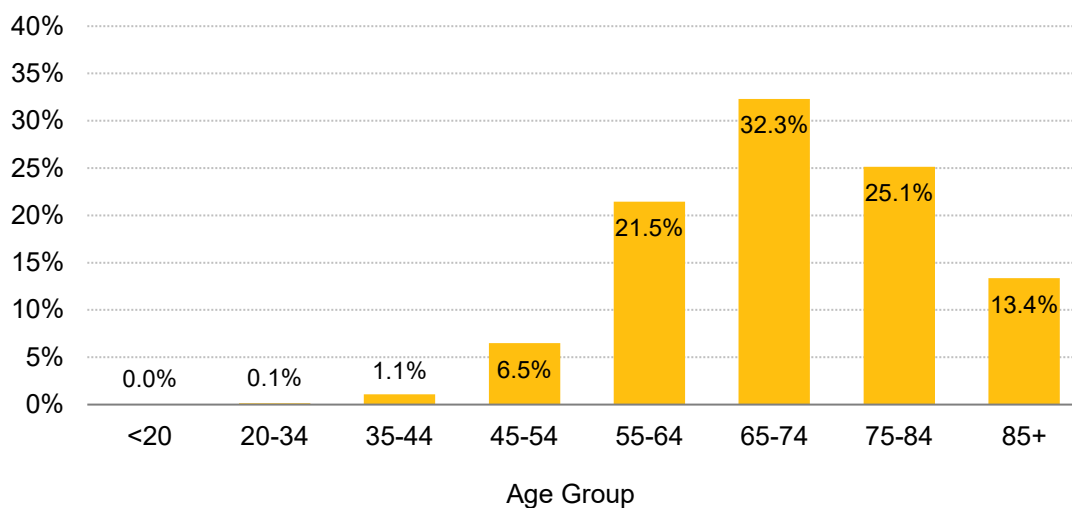


Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2022.

As shown in Figure 1, uterine cancer in Ohio was most frequently diagnosed among women ages 55-64 years (34.2%).

Uterine Cancer Mortality by Age Group

Figure 2. Percentage of Uterine Cancer Deaths by Age Group, Ohio, 2015-2019



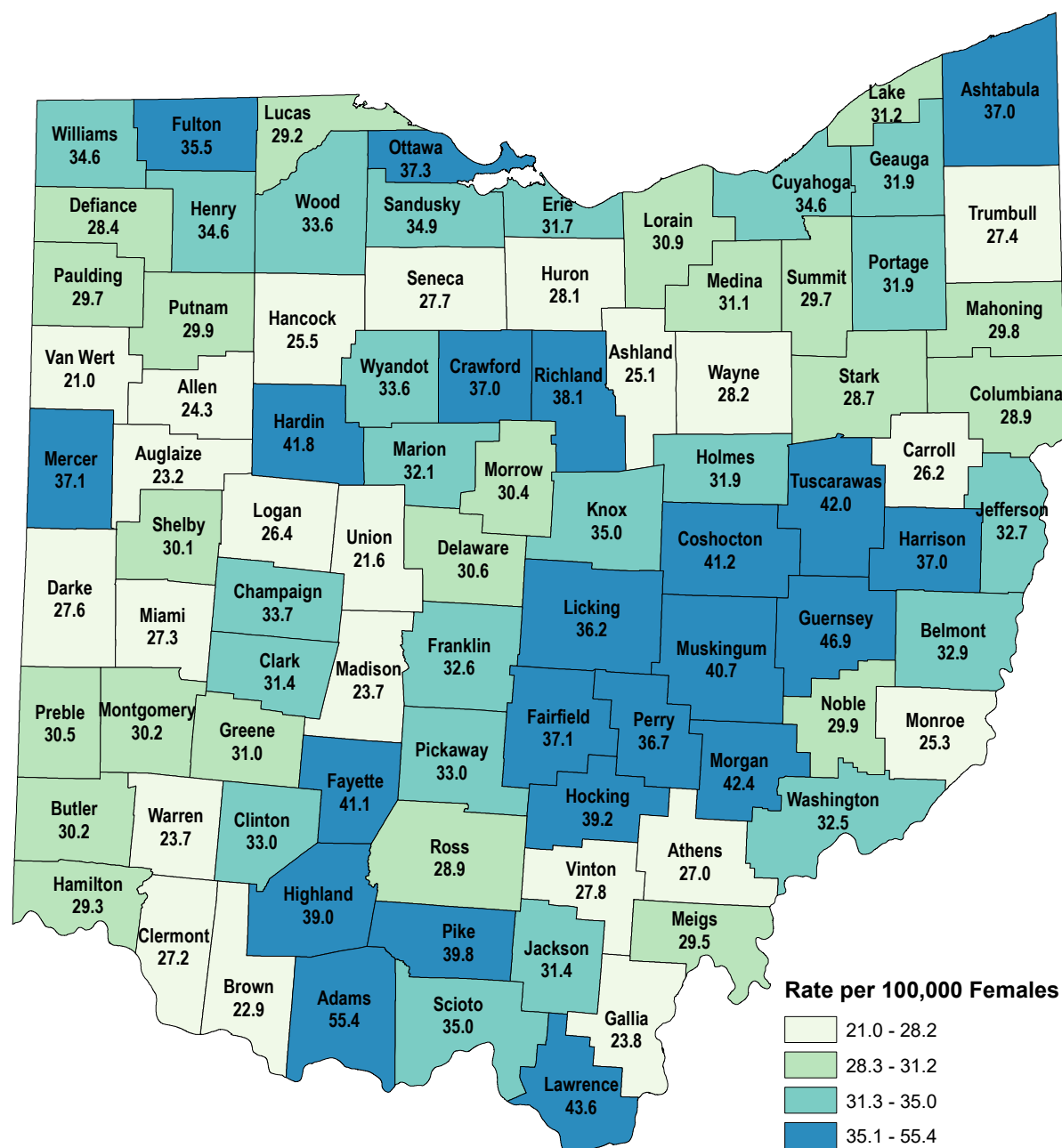
Source: Bureau of Vital Statistics, Ohio Department of Health, 2022.

As shown in Figure 2, deaths due to uterine cancer in Ohio occurred most often among women ages 65-74 years (32.3%).

Uterine Cancer Incidence by County

Figure 3. Average Annual Age-adjusted Incidence Rates of Uterine Cancer per 100,000 Females by County of Residence, Ohio, 2015-2019

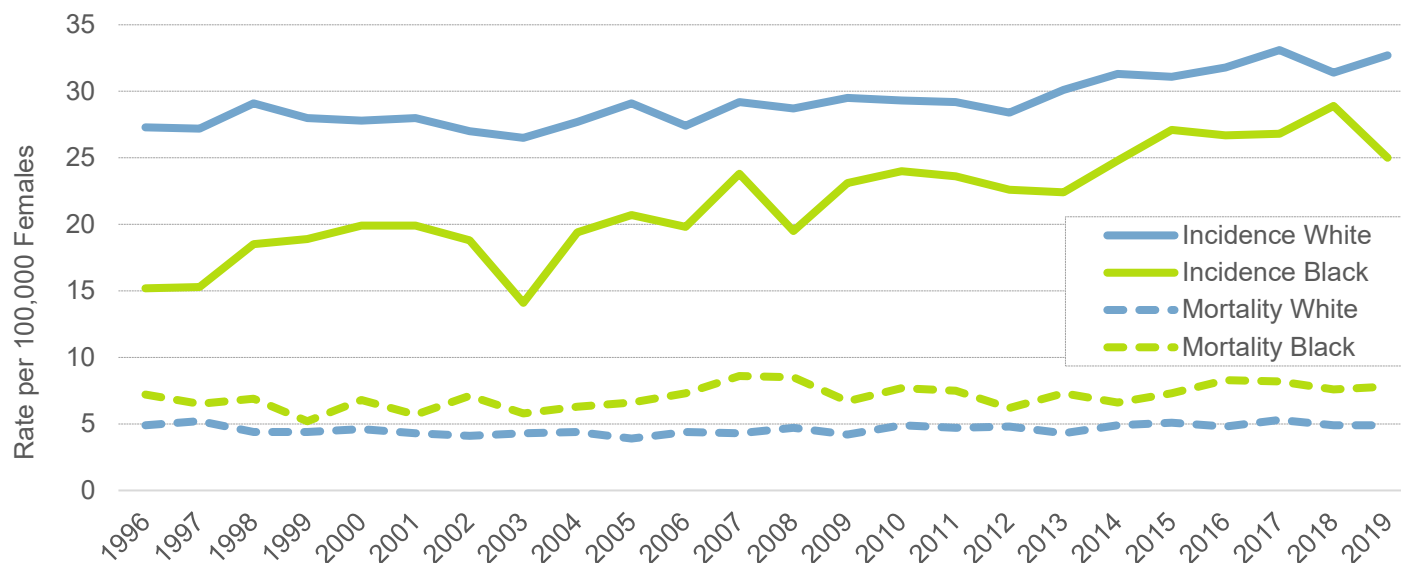
Figure 3 shows 2015-2019 average annual age-adjusted uterine cancer incidence rates by county of residence. County-specific uterine cancer incidence rates in Ohio ranged from 21.0 to 55.4 per 100,000 female residents, compared with Ohio's rate of 31.4 per 100,000 females.



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2022.
Each category represents approximately 25% of the 88 Ohio counties.

Trends

Figure 4. Trends in Age-adjusted Incidence and Mortality Rates of Uterine Cancer per 100,000 Females, Ohio, 1996-2019



Source: Ohio Cancer Incidence Surveillance System and the Bureau of Vital Statistics, Ohio Department of Health, 2022.

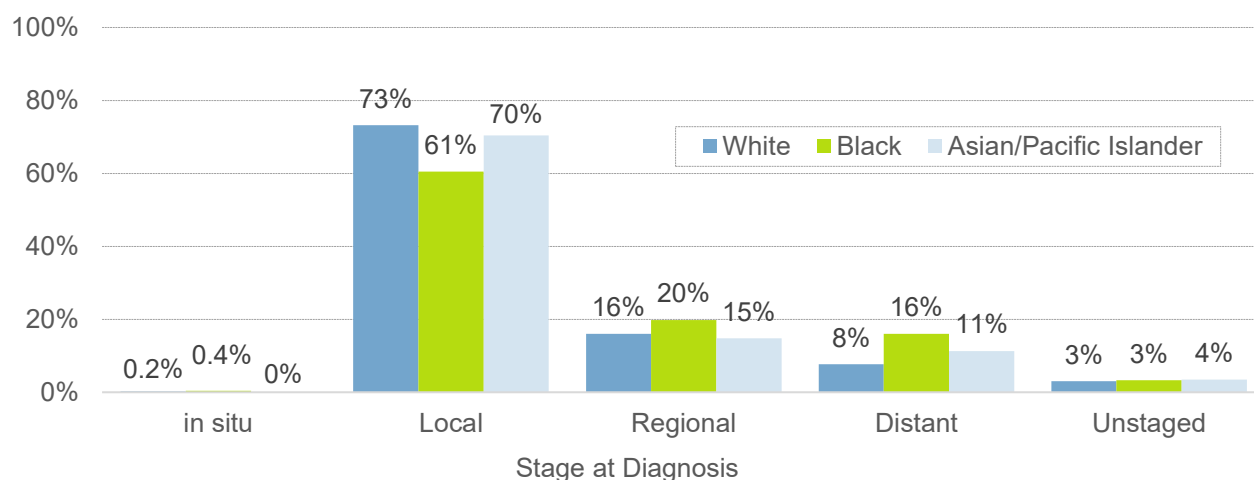
For each year, the incidence rate for white women was greater than the rate for Black women. Incidence rates from 1996 to 2019 increased 20% among white women and 65% among Black women (Figure 4).

For each year, Black women had the highest uterine cancer mortality rate. Mortality rates from 1996 to 2019 were relatively stable among white women and increased 8% among Black women (Figure 4).

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 called *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. *In situ* and local stage cancers are known as “early stage” cancers, and regional and distant stage cancers are known as “late stage” cancers.

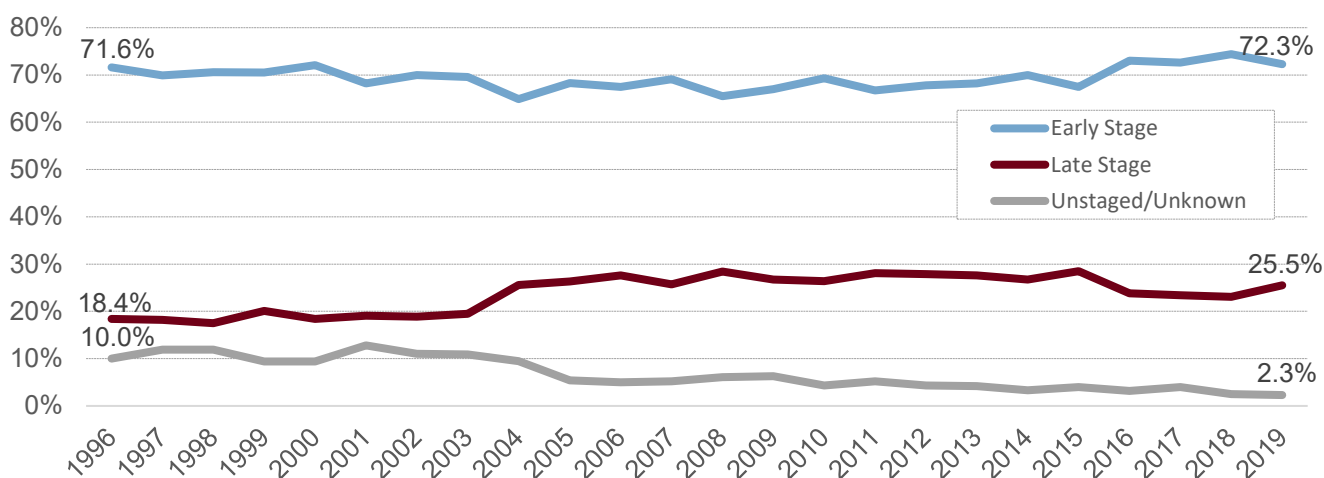
Figure 5. Proportion of Uterine Cancer Cases (%) by Stage at Diagnosis and Race, Ohio, 2015-2019



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2022.

As shown in Figure 5, white and Asian/ Pacific Islander women in Ohio were more likely to be diagnosed with uterine cancer at a local stage, while Black women had a higher proportion of cases diagnosed at a distant stage.

Figure 6. Trends in the Proportion of Uterine Cancer Cases (%) by Stage at Diagnosis, Ohio, 1996-2019



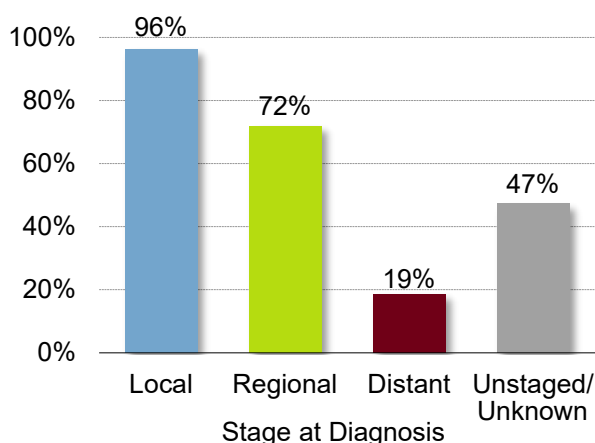
Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2022

The proportion of uterine cancer cases diagnosed at an early stage was relatively stable from 1996 to 2019. Late-stage diagnoses increased, while those diagnosed at an unstaged/unknown stage decreased from 10% in 1996 to 2.3% in 2019 (Figure 6).

Survival

In general, cancer survival is the estimated 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 7: Five-Year Relative Survival (%) for Uterine Cancer by Stage at Diagnosis, Ohio, 2012-2018

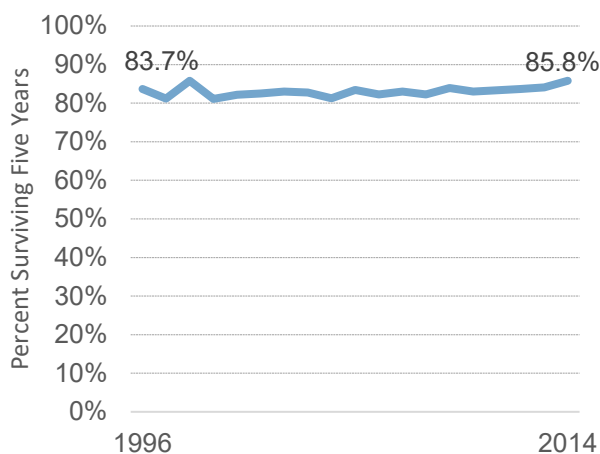


In Ohio, the five-year relative survival for uterine cancer cases diagnosed from 2012 to 2018 was:

- 84% for all stages combined (not shown).
- 96% among those diagnosed at a local stage.
- 72% among those diagnosed at the regional stage.
- Only 19% when the cancer was diagnosed at the latest (distant) stage.
- 47% for unstaged or unknown stage cases (Figure 7).

Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2022.

Figure 8. Five-Year Relative Survival Trends for Uterine Cancer, Ohio, 1996-2014



- Trends in five-year relative survival among women diagnosed with uterine cancer in Ohio were relatively stable from 1996 to 2014 (Figure 8).

Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2022.

Did You Know?

Uterine cancer (also known as endometrial cancer) is the most common cancer of the female reproductive system, accounting for more new cancer cases than ovarian, cervical, vaginal, and vulvar cancers combined.

Uterine Cancer by Histologic Type

The two main types of uterine cancer are endometrial carcinomas and uterine sarcomas.

- **Endometrial carcinomas** start in the cells of the inner lining of the uterus (the endometrium). Nearly all cancers of the uterus are this type. Most endometrial carcinomas are adenocarcinomas, where endometrioid, serous, and mixed cell adenocarcinomas accounted for 71.3%, 7.2%, and 5.7% of all invasive uterine cancer cases in Ohio in 2015-2019 (Table 2).
- **Uterine sarcomas** start in the muscle layer (myometrium) or supporting connective tissue of the uterus and include uterine leiomyosarcomas and endometrial stromal sarcomas. In Ohio, about 2.8% of cases were uterine sarcomas in 2015-2019 (Table 2).

Table 2: Average Annual Number and Proportion (%) of Uterine Cancer Cases by Histology, Ohio, 2015-2019

Histologic Type	Cases	Percent
Endometrial carcinoma		
Endometrioid adenocarcinoma (8262, 8380, 8382, 8383, 8570)	1,782	71.3%
Serous adenocarcinoma (8441, 8460, 8461)	181	7.2%
Mixed cell adenocarcinoma (8323)	141	5.7%
Clear cell adenocarcinoma (8310)	27	1.1%
Mucinous adenocarcinoma (8480, 8482)	14	0.6%
Papillary adenocarcinoma (8260)	1	0.0%
Uterine sarcoma (8800, 8801, 8802, 8805, 8890, 8891, 8896, 8900, 8910, 8930, 8931)	66	2.6%

Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2022.

Note: Not all types of uterine cancer are presented in Table 2; therefore, percentages do not add up to 100%.

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

Potentially Modifiable Risk Factors

Obesity, weight gain, and physical inactivity: An estimated 70% of uterine cancers are attributable to excess body weight and insufficient physical activity. Obesity, particularly in the abdominal area, likely increases the amount of circulating estrogen, which is a strong risk factor.

Postmenopausal estrogen: Use of estrogen after menopause increases risk, but not estrogen plus the use of progestin.

Not having children and low duration of lactation: Not having children and no or low lactation increases risk as a result of prolonged endogenous estrogen exposure.

Tamoxifen: Taking the drug Tamoxifen, used to prevent breast cancer, for two or more years increases risk slightly because it has estrogen-like effects on the uterus.

Non-modifiable Risk Factors

Age: The average age at diagnosis of uterine cancer is 60 years. Women ages 55 to 84 years old have higher risk than women less than 55 and women 85 years and older.

Race: White women are at greater risk of being diagnosed with uterine cancer; however, black women are at greater risk of dying from uterine cancer.

History of endometrial hyperplasia and breast and ovarian cancer: Women diagnosed with endometrial hyperplasia, an increased growth of the endometrium, or with breast or ovarian cancer are at greater risk.

Genetic predisposition/Inherited syndromes: Women diagnosed with Lynch syndrome, Cowden syndrome, or polycystic ovary syndrome have a higher risk of uterine cancer.

Family history: Women with at least one first-degree relative (parent, sibling, or child) with uterine cancer are at greater risk.

Late menopause: Women who go through menopause after age 55 have increased risk.

Signs and Symptoms of Uterine Cancer

- Abnormal uterine bleeding or spotting, especially in postmenopausal women.
- Pain during urination, intercourse, or in the pelvic area.
- Non-bloody vaginal discharge.

Any of these symptoms may be caused by cancer or by other, less serious health problems. Women with any of these symptoms should see their healthcare provider.

Early Detection

There is no recommended screening test for women at average risk; however, most cases are diagnosed at an early stage because of postmenopausal bleeding. Women are encouraged to report any unexpected bleeding or spotting to their healthcare provider. The American Cancer Society recommends that women with known or suspected Lynch syndrome be offered annual screening with endometrial biopsy and/or transvaginal ultrasound beginning at age 35.

Technical Notes

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. Under 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., 2015 to 2019). 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.

Incidence: The number of cases diagnosed during a specified time period (e.g., 2015 to 2019). Uterine cancer cases were defined by the International Classification of Diseases for Oncology, Third Edition (ICD-O-3), and categorized by C540-C549; C559 excluding 9050-9055, 9140, 9590-9992, in accordance with the SEER Program of the National Cancer Institute.

Invasive Cancer: A malignant tumor that has infiltrated the organ in which the tumor originated. Invasive cancers consist of those diagnosed at the local, regional, distant, and unstaged/missing stages. Only invasive cancers were included in the calculation of incidence rates in this document.

Histology: The study of tissues and cells under a microscope.

Mortality: The number of deaths during a specified time period (e.g., 2015 to 2019). Uterine cancer deaths were defined by the International Statistical Classification of Diseases and Related Health Problems, Tenth Edition (ICD-10), C540-C559.

Population Data Used to Calculate Rates: The 1996 to 2019 rates were calculated using population estimates from the U.S. Census Bureau and National Center for Health Statistics. Population data were compiled from bridged-race intercensal population estimates for July 1, 1990 to July 1, 1999 (released July 26, 2004); revised bridged-race intercensal population estimates for July 1, 2000 to July 1, 2004 (released Oct. 26, 2012); revised bridged-race intercensal population estimates for July 1, 2005 to July 1, 2009 (released June 26, 2014), and vintage 2020 bridged-race postcensal population estimates for July 1, 2010 to July 1, 2020 (released Sept. 22, 2021).

Rate: The number of cases or deaths per unit of population (e.g., per 100,000 persons) during a specified time period (e.g., 2015 to 2019). Rates may be unstable and are not presented when the count is less than five.

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 Stage — 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 Invasive Uterine Cancer Cases and Deaths per 100,000 Females by County of Residence, Ohio and the United States, 2015-2019

	Incidence		Mortality			Incidence		Mortality			Incidence		Mortality	
	Cases	Rate	Deaths	Rate		Cases	Rate	Deaths	Rate		Cases	Rate	Deaths	Rate
Ohio	2,499	31.4	446	5.3	Harrison	4	37.0	<2	*	Putnam	7	29.9	<2	*
U.S.		27.8		5.0	Henry	7	34.6	<2	*	Richland	33	38.1	5	5.3
Adams	10	55.4	2	10.4	Highland	11	39.0	<2	*	Ross	15	28.9	3	4.9
Allen	17	24.3	3	3.9	Hocking	7	39.2	<2	*	Sandusky	14	34.9	2	4.9
Ashland	10	25.1	<2	*	Holmes	7	31.9	2	8.2	Scioto	17	35.0	<2	*
Ashtabula	26	37.0	5	7.3	Huron	11	28.1	3	6.1	Seneca	11	27.7	<2	*
Athens	9	27.0	<2	*	Jackson	7	31.4	<2	*	Shelby	9	30.1	<2	*
Auglaize	8	23.2	<2	*	Jefferson	17	32.7	3	4.9	Stark	77	28.7	14	4.5
Belmont	16	32.9	<2	*	Knox	15	35.0	3	6.5	Summit	115	29.7	18	4.5
Brown	7	22.9	<2	*	Lake	57	31.2	11	5.8	Trumbull	43	27.4	7	4.2
Butler	73	30.2	13	5.8	Lawrence	18	43.6	3	6.8	Tuscarawas	25	42.0	5	5.9
Carroll	5	26.2	<2	*	Licking	43	36.2	8	6.0	Union	7	21.6	2	7.0
Champaign	10	33.7	<2	*	Logan	9	26.4	<2	*	Van Wert	4	21.0	<2	*
Clark	30	31.4	5	5.2	Lorain	67	30.9	13	5.4	Vinton	3	27.8	<2	*
Clermont	38	27.2	7	5.0	Lucas	87	29.2	14	4.5	Warren	35	23.7	6	4.4
Clinton	9	33.0	<2	*	Madison	7	23.7	<2	*	Washington	15	32.5	3	5.1
Columbiana	21	28.9	4	4.4	Mahoning	52	29.8	9	4.3	Wayne	22	28.2	4	5.1
Coshocton	11	41.2	2	7.9	Marion	14	32.1	2	4.9	Williams	9	34.6	<2	*
Crawford	11	37.0	3	9.2	Medina	40	31.1	6	4.6	Wood	28	33.6	5	6.1
Cuyahoga	315	34.6	65	6.5	Meigs	5	29.5	<2	*	Wyandot	5	33.6	<2	*
Darke	11	27.6	2	6.0	Mercer	10	37.1	<2	*					
Defiance	8	28.4	<2	*	Miami	21	27.3	3	3.5					
Delaware	37	30.6	5	4.1	Monroe	3	25.3	<2	*					
Erie	19	31.7	4	6.5	Montgomery	115	30.2	19	4.4					
Fairfield	38	37.1	5	4.6	Morgan	5	42.4	<2	*					
Fayette	8	41.1	<2	*	Morrow	8	30.4	3	9.2					
Franklin	235	32.6	40	5.6	Muskingum	24	40.7	3	5.0					
Fulton	11	35.5	<2	*	Noble	3	29.9	<2	*					
Gallia	5	23.8	<2	*	Ottawa	13	37.3	3	8.1					
Geauga	24	31.9	4	4.7	Paulding	3	29.7	<2	*					
Greene	36	31.0	6	5.2	Perry	8	36.7	<2	*					
Guernsey	12	46.9	<2	*	Pickaway	12	33.0	2	5.4					
Hamilton	155	29.3	34	6.2	Pike	8	39.8	<2	*					
Hancock	14	25.5	3	5.7	Portage	36	31.9	6	5.1					
Hardin	9	41.8	<2	*	Preble	9	30.5	<2	*					

Source: Ohio Cancer Incidence Surveillance System and Bureau of Vital Statistics, Ohio Department of Health, 2022; Surveillance, Epidemiology, and End Results Program, National Cancer Institute, 2022.

*Rate not calculated when the death count for 2015-2019 is less than 10 (i.e., the average annual count is less than two).

Sources of Data and Additional Information

Ohio Department of Health:

[Ohio Cancer Incidence Surveillance System \(OCISS\)](#)
[Comprehensive Cancer Control Program](#)

Ohio Public Health Data Warehouse:

<https://publicapps.odh.ohio.gov/EDW/DataCatalog>

National Cancer Institute:

<https://www.cancer.gov/types/uterine>

American Cancer Society:

<https://www.cancer.org/cancer/endometrial-cancer.html>
<https://www.cancer.org/cancer/uterine-sarcoma.html>

U.S. Cancer Statistics:

www.cdc.gov/cancer/dataviz

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