

Lake County Cancer Profile

Ohio Department of Health

2019



Introduction

Approximately four out of 10 Ohioans will be diagnosed with cancer at some point during their lifetime. Cancer is the second leading cause of death, accounting for nearly one in every four deaths in Ohio and the United States. Disparities in rates may be associated with lifestyle factors, lack of access to health care, later stage at diagnosis, inadequate treatment or other risk factors that should be addressed in cancer prevention, early detection and control initiatives. This report provides an overview of cancer in Lake County, Ohio, including data on cancer incidence (new cases) and mortality (deaths), Ohio and U.S. comparisons, trends, stage at diagnosis and risk factors. This information can be used to increase awareness about the burden of cancer in Lake County and to develop targeted cancer programs in the community.

Overview

- An average of 1,471 new invasive cancer cases and 566 deaths occurred each year among Lake County residents from 2012-2016.
- In 2012-2016, the cancer incidence rate for all sites/types combined in Lake County was 477.1 per 100,000, compared with the Ohio rate of 461.9 per 100,000 and the U.S. rate of 442.0 per 100,000.
- The 2012-2016 cancer mortality rate in Lake County was 175.8 per 100,000, compared with the Ohio rate of 176.8 per 100,000 and the U.S. rate of 161.0 per 100,000.
- Cancer incidence and mortality rates among males were higher than the rates for females in Lake County, Ohio and the United States in 2012-2016. Whites had higher cancer incidence and mortality rates than blacks in Lake County during this time period.

Table 1. Average Annual Number and Age-adjusted Rates of Invasive Cancer Cases and Cancer Deaths by Sex and Race in Lake County, Ohio and the United States, 2012-2016^{1,2,3}

Demographics		Incidence				Mortality			
		Lake County		Ohio	U.S.	Lake County		Ohio	U.S.
		Cases	Rate	Rate	Rate	Deaths	Rate	Rate	Rate
Total		1,471	477.1	461.9	442.0	566	175.8	176.8	161.0
Sex	Male	712	504.8	500.7	481.0	299	218.6	212.6	193.1
	Female	759	465.0	437.5	417.1	267	147.1	151.5	137.7
Race	White	1,410	474.9	458.1	451.7	550	176.4	175.6	161.5
	Black	38	465.0	452.7	442.9	12	158.1	197.8	185.6

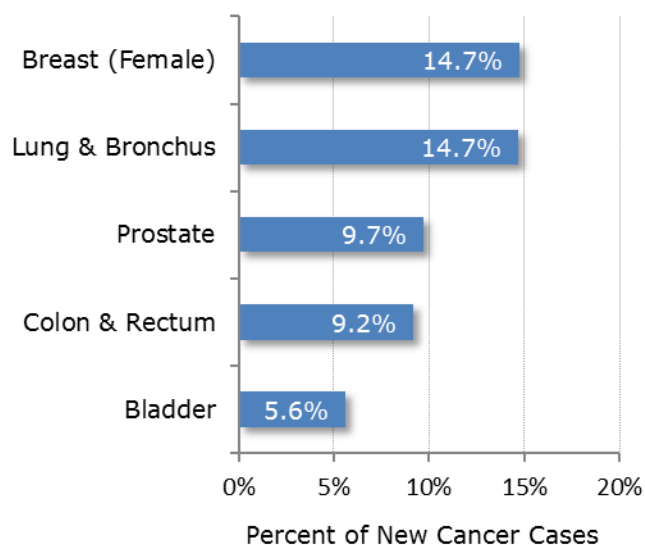
¹ Source of Ohio data: Ohio Cancer Incidence Surveillance System and the Bureau of Vital Statistics, Ohio Department of Health, 2019.

² Source of U.S. data: Surveillance, Epidemiology and End Results Program, National Cancer Institute and the National Center for Health Statistics, 2019.

³ Rates are per 100,000 and age-adjusted to the 2000 U.S. standard population.

Leading Cancers

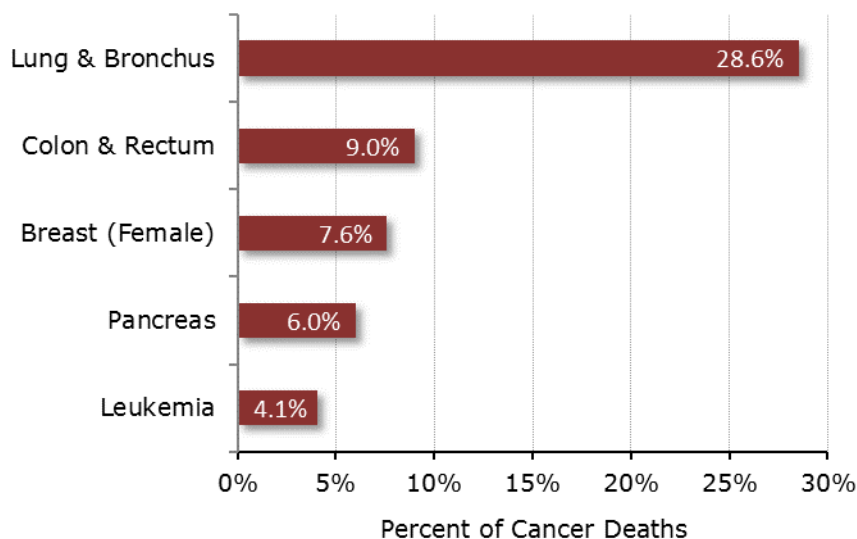
Figure 1. Percentage of Cancer Cases by Site/Type for the Top Five Cancers in Lake County, 2012-2016¹



The leading sites/types of cancer incidence in Lake County in 2012-2016 were female breast, lung and bronchus, prostate, colon and rectum, and bladder, representing 54 percent of all invasive cancer cases.

¹ Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2019.

Figure 2. Percentage of Cancer Deaths by Site/Type for the Top Five Cancers in Lake County, 2012-2016¹



The leading sites/types of cancer mortality in Lake County in 2012-2016 were lung and bronchus, colon and rectum, female breast, pancreas and leukemia, representing 55 percent of all cancer deaths.

¹ Source: Bureau of Vital Statistics, Ohio Department of Health, 2019.

Female breast cancer and lung and bronchus cancer were the leading causes of cancer incidence in 2012-2016, each accounting for 14.7 percent of cancer cases. Lung and bronchus cancer was the leading cause of cancer mortality in Lake County in 2012-2016, accounting for 28.6 percent of cancer deaths.

Cancer Sites/Types

Table 2. Average Annual Number and Age-adjusted Rates of Invasive Cancer Cases and Cancer Deaths by Site/Type in Lake County, Ohio and the United States, 2012-2016^{1,2,3}

Cancer Site/Type	Incidence				Mortality			
	Lake County		Ohio	U.S.	Lake County		Ohio	U.S.
	Cases	Rate	Rate	Rate	Deaths	Rate	Rate	Rate
All Sites/Types	1,471	477.1	461.9	442.0	566	175.8	176.8	161.0
Bladder	82	25.5	22.0	20.1	22	6.5	5.0	4.4
Brain & Other CNS	22	7.9	7.1	6.4	16	5.3	4.6	4.4
Breast (Female)	217	135.0	127.4	127.5	43	24.8	22.4	20.6
Cervix	6	5.0	7.6	7.3	2	1.6	2.3	2.3
Colon & Rectum	135	43.3	41.5	38.6	51	15.9	15.7	14.2
Esophagus	13	4.1	5.2	4.3	17	5.1	5.0	4.0
Hodgkin Lymphoma	8	3.3	2.8	2.7	<1	*	0.3	0.3
Kidney & Renal Pelvis	52	17.7	17.1	16.1	12	3.5	3.9	3.8
Larynx	10	3.1	4.0	3.0	2	0.5	1.3	1.0
Leukemia	43	14.1	12.2	14.1	23	7.1	6.9	6.5
Liver & Intrahepatic Bile Duct	22	6.7	7.0	8.8	19	5.7	5.9	6.5
Lung & Bronchus	216	67.2	68.5	54.9	162	49.8	50.3	41.9
Melanoma of the Skin	73	25.2	22.9	22.2	12	3.9	2.8	2.5
Multiple Myeloma	18	5.6	6.0	6.9	11	3.3	3.6	3.3
Non-Hodgkin Lymphoma	63	20.8	19.1	19.6	17	5.4	6.1	5.6
Oral Cavity & Pharynx	39	12.1	11.8	11.3	9	2.8	2.7	2.5
Ovary	20	12.0	11.0	11.4	15	8.4	7.4	7.0
Pancreas	39	12.4	12.8	12.9	34	10.6	11.6	11.0
Prostate	143	92.8	103.0	109.5	22	16.6	19.0	19.2
Stomach	19	6.0	6.4	7.4	9	3.0	2.7	3.1
Testis	8	8.1	5.8	5.9	<1	*	0.3	0.3
Thyroid	47	18.7	15.1	15.8	1	0.3	0.5	0.5
Uterus	57	32.9	29.7	27.5	9	5.1	5.0	4.7

¹ Source of Ohio data: Ohio Cancer Incidence Surveillance System and the Bureau of Vital Statistics, Ohio Department of Health, 2019.

² Source of U.S. data: Surveillance, Epidemiology and End Results Program, National Cancer Institute and the National Center for Health Statistics, 2019.

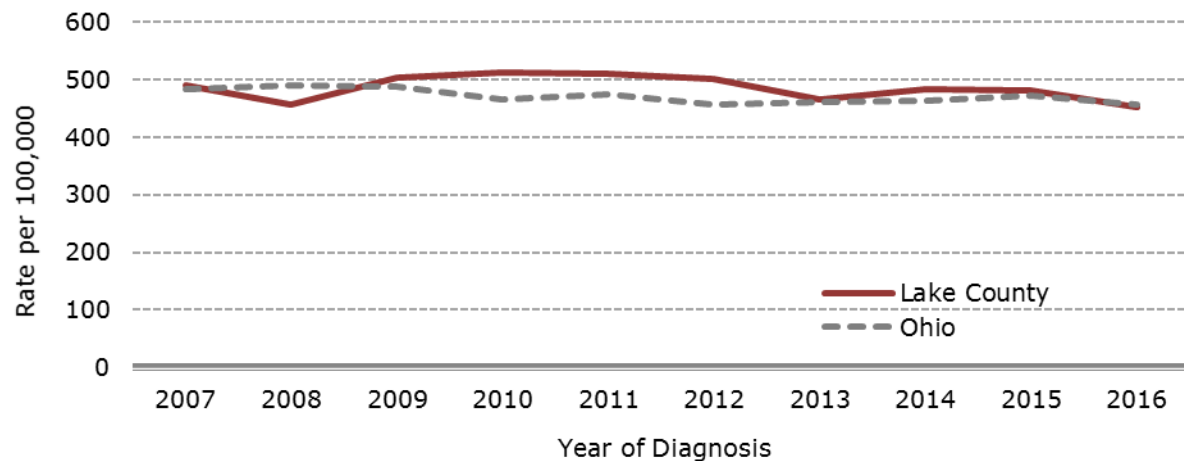
³ Rates are per 100,000 and age-adjusted to the 2000 U.S. standard population. Rates are sex specific for cancers of the breast, cervix, ovary, prostate, testis and uterus.

CNS = Central Nervous System

* Rates may be unstable and are not presented when the count for 2012-2016 is less than five (i.e., average annual count is less than one).

Trends

Figure 3. Age-adjusted Cancer Incidence Rates in Lake County and Ohio by Year, 2007-2016^{1,2}



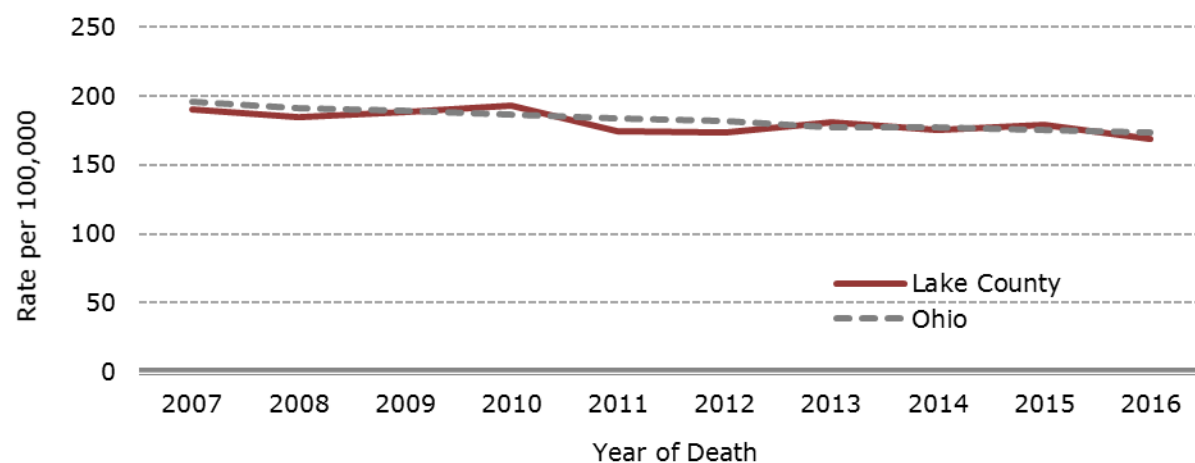
¹ Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2019.

² Rates are per 100,000 and age-adjusted to the 2000 U.S. Standard Population.

Note: Incidence rates are often variable over time at the county level, particularly for counties with small populations.

Cancer incidence rates decreased 8 percent in Lake County and 6 percent in Ohio from 2007-2016.

Figure 4. Age-adjusted Cancer Mortality Rates in Lake County and Ohio by Year, 2007-2016^{1,2}



¹ Source: Bureau of Vital Statistics, Ohio Department of Health, 2019.

² Rates are per 100,000 and age-adjusted to the 2000 U.S. Standard Population.

Note: Mortality rates are often variable over time at the county level, particularly for counties with small populations.

Cancer mortality rates decreased 11 percent in both Lake County and Ohio from 2007-2016.

Stage at Diagnosis

Table 3. Percent of Cancer Cases by Stage at Diagnosis for Select Cancer Sites/Types in Lake County, Ohio and the United States, 2012-2016^{1,2,3}

Cancer Site/Type	Lake County		Ohio		U.S.	
	Early Stage	Late Stage	Early Stage	Late Stage	Early Stage	Late Stage
Breast (Female)	75.6	23.4	70.2	27.9	72.1	26.3
Cervix	40.0	56.7	43.8	51.2	43.1	51.6
Colon & Rectum	39.7	54.7	37.3	53.1	41.0	52.8
Lung & Bronchus	23.3	69.1	20.1	70.8	21.7	72.2
Melanoma of the Skin	82.1	9.4	82.2	8.6	89.6	6.8
Oral Cavity & Pharynx	31.0	64.0	30.1	65.0	33.1	61.5
Prostate	71.2	21.4	70.7	19.5	72.1	19.7

¹ Source of Ohio data: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2019.

² Source of U.S. data: Surveillance, Epidemiology and End Results Program, National Cancer Institute, 2019.

³ Early and late stage values do not add up to 100 percent because unstaged/missing stage cancers are not included.

Cancer stage at diagnosis is the extent or spread of the tumor from the site of origin. The stages, in order of increasing spread, are *in situ*, local, regional and distant. Early stage cancers are those diagnosed at the *in situ* or local stage, and late stage cancers are those diagnosed at the regional or distant stage. Cancers may also be reported as unstaged or with a missing stage (not shown). Regular screening can result in the detection of these cancers at earlier stages, when treatment is more likely to be successful.

- Among the cancers selected, those with the highest proportions of late-stage tumors in Lake County were lung and bronchus cancer (69.1 percent), followed by oral cavity and pharynx cancer (64.0 percent), and cervical cancer (56.7 percent).
- Cancer sites/types with a higher percentage of late stage tumors in Lake County compared to Ohio include cervix, colon and rectum, and prostate. Please note that the percentage of unstaged/missing stage cases varies by cancer site/type and region; therefore, comparisons between Lake County, Ohio and the United States should be interpreted with caution.

Risk Factors

Table 4. Percent of Adults who are Current Smokers, Obese or Physically Inactive in Lake County with Comparison to Ohio and the United States, 2015, 2016¹

Risk Factor	Lake County	Ohio	U.S.
Current Smoker	17.6	22.5	17
Obese	27.2	31.8	29
Physically Inactive	20.3	24.6	22

¹ Source: County Health Rankings, www.countyhealthrankings.org, 2019. Current smoker data are from 2016, and obesity and physical inactivity data are from 2015.

Current Smoker = Percentage of adults who are current smokers

Obese = Percentage of adults with a body mass index (BMI) ≥ 30

Physically Inactive = Percentage of adults that reported no leisure-time physical activity in the past 30 days

A cancer risk factor is anything that increases a person's risk of developing cancer. Modifiable cancer risk factors include health behaviors and lifestyle factors (e.g., tobacco use, obesity and physical inactivity). It is often not just one factor that increases a person's risk of developing cancer; rather, cancer most often results from a complex interaction of multiple factors.

- The percentage of adults in Lake County who are current smokers is 17.6 percent, compared to 22.5 percent in Ohio and 17 percent in the United States.
- The percentage of adults who are obese in Lake County is 27.2 percent, compared to 31.8 percent in Ohio and 29 percent in the United States.
- The percentage of adults that report no leisure-time physical activity in Lake County is 20.3 percent, compared to 24.6 percent in Ohio and 22 percent in the United States.

Did You Know?

- Tobacco use is associated with 12 types of cancer. Nearly one-third of all cancer deaths could be prevented by eliminating tobacco use.
- Overweight and obesity are associated with at least 13 types of cancer. Nearly one-fifth of cancer deaths could be prevented by adopting healthy diet and exercise practices.

Sources of Data and Additional Information

Ohio Cancer Incidence Surveillance System (OCISS)

Cancer incidence data were provided by OCISS, the central cancer registry for Ohio. OCISS data can be accessed through the **Ohio Public Health Data Warehouse**, <http://publicapps.odh.ohio.gov/EDW/DataCatalog>.

Ohio Vital Statistics

Cancer mortality data were provided by the Bureau of Vital Statistics and analyzed by the Chronic Disease Epidemiology and Evaluation Section at the Ohio Department of Health. Cancer mortality data can also be accessed through the Ohio Public Health Data Warehouse.

County Health Rankings

Risk factor data were obtained from *County Health Rankings Key Findings 2019*, University of Wisconsin Population Health Institute, available at www.countyhealthrankings.org.

U.S. Statistics

Cancer statistics for the United States were obtained from the Surveillance, Epidemiology, and End Results (SEER) Program, National Cancer Institute, and the National Center for Health Statistics, available at: <http://seer.cancer.gov>. Data sources include the *SEER Cancer Statistics Review, 1975-2016* and the SEER*Stat Database, SEER 21 Registries Research Data, released April 2019, based on the November 2018 submission. Stage distributions were calculated using SEER*Stat software version 8.3.5.

Other Sources of Information

Ohio Department of Health, Cancer Data and Statistics:

<https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/ohio-cancer-incidence-surveillance-system/data-statistics/data-statistics>

American Cancer Society:

<http://www.cancer.org>

National Cancer Institute:

<http://www.cancer.gov>

To address comments and information requests:

Ohio Cancer Incidence Surveillance System

Phone: (614) 752-2689

E-mail: ociss@odh.ohio.gov

OCISS website: <https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/ohio-cancer-incidence-surveillance-system/welcome-to>

Acknowledgements

The following individuals contributed to this report:

John Kollman, M.S.; Emily Bunt, M.A.; Holly L. Sobotka, M.S.
Ohio Department of Health

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

Lake County Cancer Profile 2019, Ohio Cancer Incidence Surveillance System, Ohio Department of Health, July 2019.

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, however, is appreciated.



OCISS is supported in part by the State of Ohio and the CDC, National Program of Cancer Registries, cooperative agreement number NU58DP006284. The contents of this report are the sole responsibility of ODH and do not necessarily represent the official views of the CDC.