

# Warren County Cancer Profile

Ohio Department of Health

2015



## Introduction

This report provides an overview of cancer in Warren County, Ohio, including data on cancer incidence (new cases) and mortality (deaths), Ohio and U.S. comparisons, trends, stage at diagnosis, cancer screening and risk factors. This information can be used to increase awareness about the impact of cancer on Ohio residents and to develop targeted programs for cancer prevention, early detection and control.

## Overview

- An average of 946 new invasive cancer cases and 335 deaths occurred each year among Warren County residents from 2008-2012.
- In 2008-2012, the cancer incidence rate for all sites/types combined in Warren County was 448.2 per 100,000, compared with the Ohio rate of 463.9 per 100,000.
- The 2008-2012 cancer mortality rate in Warren County was 169.4 per 100,000, compared with the Ohio rate of 186.6 per 100,000.
- Cancer sites/types and demographic subgroups with high numbers of cancer cases and/or high incidence rates should be prioritized in cancer prevention and early detections programs. High mortality rates may be associated with a later stage at diagnosis, lack of access to health care, inadequate treatment or other risk factors that should be addressed in cancer control initiatives.

**Table 1.** Average Annual Number and Age-adjusted Rates of Invasive Cancer Cases and Cancer Deaths by Sex and Race in Warren County, Ohio and the United States, 2008-2012<sup>1,2,3</sup>

Demographics		Incidence				Mortality			
		Warren County Cases	Warren County Rate	Ohio Rate	U.S. Rate	Warren County Deaths	Ohio Rate	U.S. Rate	
<b>Total</b>		<b>946</b>	<b>448.2</b>	<b>463.9</b>	<b>454.8</b>	<b>335</b>	<b>169.4</b>	<b>186.6</b>	<b>171.2</b>
Sex	Male	473	493.2	524.2	516.6	170	194.4	227.5	207.9
	Female	473	419.7	423.1	411.2	165	151.2	158.0	145.4
Race	White	875	434.3	456.1	463.3	327	171.1	184.3	170.9
	Black	17	357.8	470.8	478.0	5	149.7	217.2	202.0

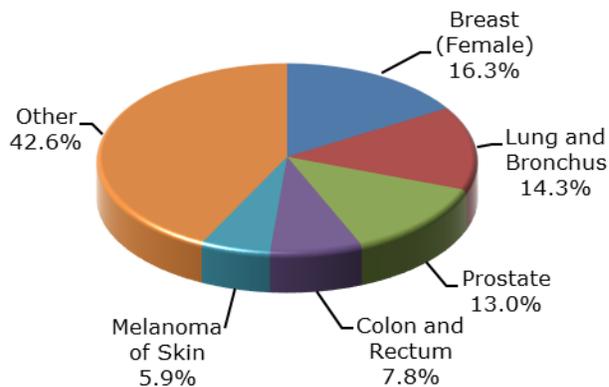
<sup>1</sup> Source of Ohio data: Ohio Cancer Incidence Surveillance System, Chronic Disease Epidemiology and Evaluation Section and the Bureau of Vital Statistics, Ohio Department of Health, 2015.

<sup>2</sup> Source of U.S. data: Surveillance, Epidemiology and End Results Program, National Cancer Institute and the National Center for Health Statistics, 2015.

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

## Leading Cancers

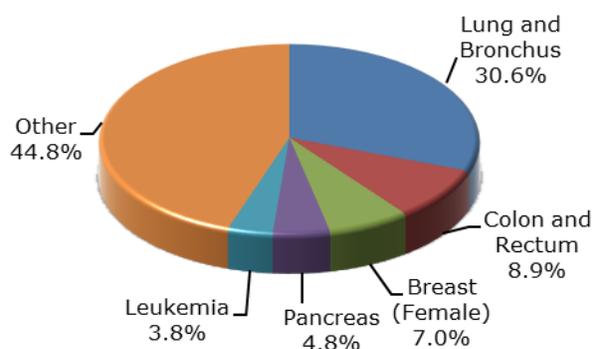
**Figure 1.** Percentage of Cancer Cases by Site/Type for the Leading Cancers in Warren County, 2008-2012<sup>1</sup>



- The leading sites/types of cancer incidence in Warren County in 2008-2012 were female breast, lung and bronchus, prostate, colon and rectum, and melanoma of the skin, representing 57.4 percent of all invasive cancer cases.

<sup>1</sup> Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2015.

**Figure 2.** Percentage of Cancer Deaths by Site/Type for the Leading Cancers in Warren County, 2008-2012<sup>1</sup>



- The leading sites/types of cancer mortality in Warren County in 2008-2012 were lung and bronchus, colon and rectum, female breast, pancreas and leukemia, representing 55.2 percent of all cancer deaths.

<sup>1</sup> Source: Chronic Disease Epidemiology and Evaluation Section and the Bureau of Vital Statistics, Ohio Department of Health, 2015.

- Female breast cancer was the leading cause of cancer incidence while lung and bronchus cancer was the leading cause of cancer mortality in 2008-2012. Female breast cancer accounted for 16.3 percent of cancer cases and lung and bronchus cancer accounted for 30.6 percent of cancer deaths in Warren County.

## Cancer Sites/Types

**Table 2.** Average Annual Number and Age-adjusted Rates of Invasive Cancer Cases and Cancer Deaths by Site/Type in Warren County, Ohio and the United States, 2008-2012<sup>1,2,3</sup>

Cancer Site/Type	Incidence				Mortality			
	Warren County Cases	Warren County Rate	Ohio Rate	U.S. Rate	Warren County Deaths	Warren County Rate	Ohio Rate	U.S. Rate
<b>All Sites/Types</b>	<b>946</b>	<b>448.2</b>	<b>463.9</b>	<b>454.8</b>	<b>335</b>	<b>169.4</b>	<b>186.6</b>	<b>171.2</b>
Bladder	42	21.2	21.9	20.3	10	5.8	5.0	4.4
Brain and Other CNS	14	6.2	6.9	6.4	10	4.6	4.5	4.3
Breast (Female)	154	133.7	120.9	124.8	23	20.7	23.6	21.9
Cervix	6	5.1	7.5	7.7	2	2.0	2.6	2.3
Colon and Rectum	74	36.5	43.1	42.4	30	15.2	17.0	15.5
Esophagus	12	5.3	5.3	4.4	10	4.8	5.0	4.2
Hodgkin Lymphoma	5	2.4	2.7	2.7	<1	*	0.4	0.4
Kidney and Renal Pelvis	34	15.9	16.4	15.6	10	5.4	4.3	3.9
Larynx	8	3.5	4.1	3.2	2	0.8	1.3	1.1
Leukemia	22	10.7	11.8	13.3	13	6.8	7.3	7.0
Liver and Intrahepatic Bile Duct	11	5.0	6.1	8.2	7	3.5	5.3	6.0
Lung and Bronchus	135	67.0	71.7	58.7	103	52.2	55.3	47.2
Melanoma of Skin	56	26.7	19.7	21.6	5	2.6	3.0	2.7
Multiple Myeloma	11	5.5	5.7	6.3	7	3.8	3.5	3.3
Non-Hodgkin Lymphoma	39	18.7	18.9	19.7	11	5.9	6.9	6.2
Oral Cavity and Pharynx	22	9.6	10.7	11.0	5	2.2	2.5	2.5
Ovary	16	14.4	11.9	12.1	10	8.7	7.9	7.7
Pancreas	18	8.9	12.4	12.4	16	8.0	11.5	10.9
Prostate	123	122.8	127.8	137.9	10	14.2	22.0	21.4
Stomach	12	5.9	6.1	7.4	5	2.5	2.9	3.4
Testis	5	4.6	5.4	5.6	<1	*	0.3	0.3
Thyroid	31	14.3	13.0	13.5	2	1.2	0.5	0.5
Uterus	31	26.7	27.7	25.1	5	4.4	4.9	4.4
Other Sites/Types	63	NA	NA	NA	37	NA	NA	NA

<sup>1</sup> Source of Ohio data: Ohio Cancer Incidence Surveillance System, Chronic Disease Epidemiology and Evaluation Section and the Bureau of Vital Statistics, Ohio Department of Health, 2015.

<sup>2</sup> Source of U.S. data: Surveillance, Epidemiology and End Results Program, National Cancer Institute and the National Center for Health Statistics, 2015.

<sup>3</sup> 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.

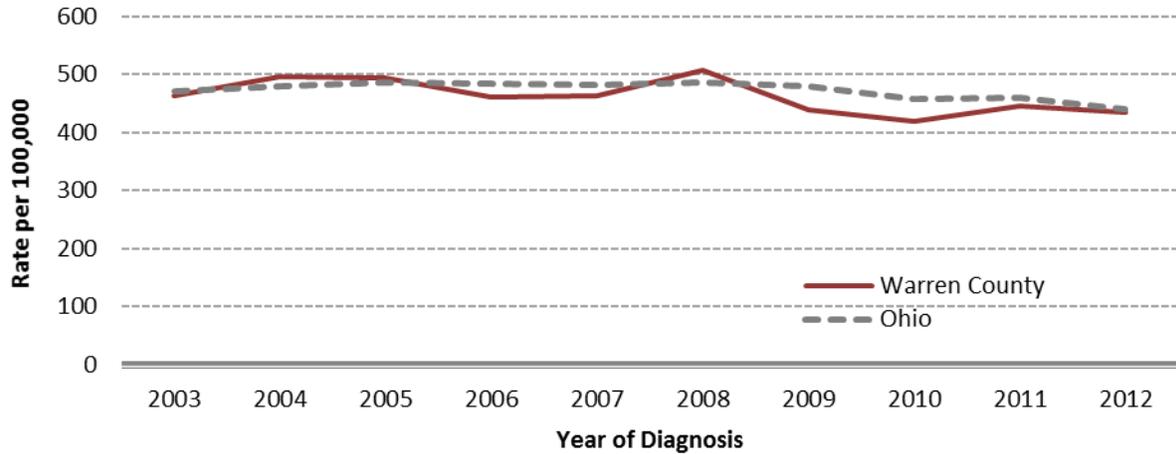
NA = Not Applicable

CNS = Central Nervous System

\* Rates may be unstable and are not presented when the count for 2008-2012 is less than five (i.e., average annual count is less than one).

## Trends

**Figure 3.** Age-adjusted Cancer Incidence Rates in Warren County and Ohio by Year, 2003-2012<sup>1,2</sup>

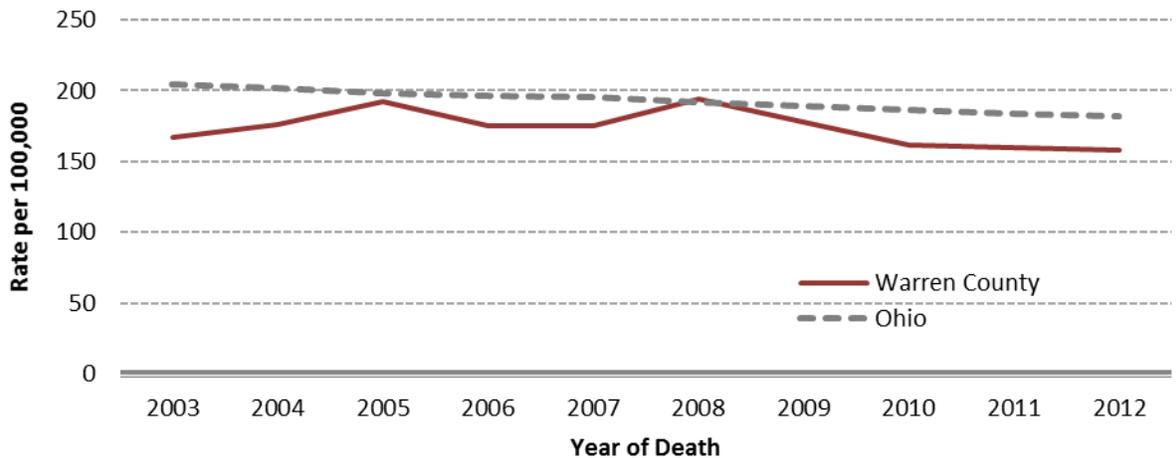


<sup>1</sup> Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2015.

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

Cancer incidence rates decreased 6 percent in Warren County and 7 percent in Ohio from 2003-2012. Note: Incidence rates are often variable over time at the county level, particularly for counties with small populations.

**Figure 4.** Age-adjusted Cancer Mortality Rates in Warren County and Ohio by Year, 2003-2012<sup>1,2</sup>



<sup>1</sup> Source: Chronic Disease Epidemiology and Evaluation Section and the Bureau of Vital Statistics, Ohio Department of Health, 2015.

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

Cancer mortality rates decreased 5 percent in Warren County and 11 percent in Ohio from 2003-2012.

## Stage at Diagnosis

**Table 3.** Percent of Cancer Cases by Stage at Diagnosis for the Leading and Screenable Cancers in Warren County, Ohio and the United States, 2008-2012<sup>1,2,3</sup>

Cancer Site/Type	Warren County		Ohio		U.S.	
	Early Stage	Late Stage	Early Stage	Late Stage	Early Stage	Late Stage
Breast (Female)	68.4	30.1	67.4	29.3	70.5	27.9
Cervix	37.9	51.7	41.4	52.0	45.2	49.7
Colon and Rectum	43.1	49.4	39.9	49.7	42.5	52.1
Lung and Bronchus	15.8	73.7	16.9	69.8	18.4	75.3
Melanoma of Skin	89.5	5.4	86.1	8.6	90.6	7.2
Oral Cavity and Pharynx	33.6	61.1	29.8	64.0	45.5	50.1
Pancreas	8.7	79.3	7.5	69.4	10.5	78.4
Prostate	79.8	13.1	79.0	13.0	78.8	16.3
Testis	66.7	33.3	67.7	29.5	68.0	30.6

<sup>1</sup> Source of Ohio data: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2015.

<sup>2</sup> Source of U.S. data: Surveillance, Epidemiology and End Results Program, National Cancer Institute, 2015.

<sup>3</sup> 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. 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.
- Screening programs should target cancers with high proportions of late- (regional and distant) stage tumors to increase the probability of survival.
- Cancers may be reported as unstaged or with a missing stage. High proportions of unstaged/missing stage cancers may indicate incomplete reporting and should be accounted for when comparing proportions by stage.
- Pancreatic cancer had the highest proportion of late-stage tumors in Warren County among the leading and screenable cancers.



## Risk Factors

**Table 5.** Percent of Adults ages 18+ who are Current Smokers, Do Not Meet Physical Activity Guidelines and are Overweight/Obese by County Type with Comparison to Ohio, 2013 and 2014<sup>1</sup>

County Type	Current Smoker*	Does Not Meet Physical Activity Guidelines**	Overweight/Obese***
Appalachian	23.7	81.6	70.3
Metropolitan	21.7	80.7	67.4
Rural	21.0	82.1	65.6
Suburban	16.9	79.8	66.5
<b>Ohio</b>	21.0	81.0	66.7

<sup>1</sup> Source: 2013 and 2014 Ohio Behavioral Risk Factor Surveillance System, Ohio Department of Health, 2015. Physical activity data are from 2013, and current smoker and overweight/obesity data are from 2014.

\*Current smoker is defined as persons who reported smoking at least 100 cigarettes in their lifetime and currently smoke every day or some days.

\*\*Physical activity guidelines for adults are defined as at least 150 minutes of moderate-intensity physical activity per week and muscle-strengthening activities two or more days per week.

\*\*\*Overweight classification is defined as a Body Mass Index (BMI) of 25.0-29.9 and obese classification is defined as a BMI of 30.0+.

- Adults located in suburban counties were less likely to smoke compared with those located in Appalachian and metropolitan counties.
- There were no significant differences by county type for percent of adults not meeting physical activity guidelines.
- Adults located in Appalachian counties were more likely to be overweight/obese compared with those located in rural counties.

### Did You Know?

Tobacco use causes many types of cancer, including cancer of the lung, larynx (voice box), mouth, esophagus, throat, bladder, kidney, liver, stomach, pancreas, cervix, colon and rectum as well as acute myeloid leukemia.

Physical activity may reduce the risk of several types of cancer including cancer of the breast, colon and rectum, and endometrium as well as advanced prostate cancer.

If Ohioans reduce their BMI by just five percent, 23,000 cases of cancer will be prevented in Ohio by 2030, saving \$1 billion.

## 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.

### Ohio Behavioral Risk Factor Surveillance System (BRFSS)

The BRFSS is an annual survey designed to collect data on diseases, health behaviors, clinical risk factors and injuries through landline and cell phone interviews of randomly selected adults age 18 and older. ODH conducts the Ohio BRFSS in conjunction with the Centers for Disease Control and Prevention (CDC).

### 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, 1975-2012* and the SEER\*Stat Database, SEER 18 Registries Research Data, released April 2015, based on the November 2014 submission. Stage distributions were calculated using SEER\*Stat software version 8.2.1.

### Other Sources of Information

Ohio Department of Health, Cancer Data and Statistics:  
<http://www.healthy.ohio.gov/cancer/ocisshs/newrpts1.aspx>  
American Cancer Society: <http://www.cancer.org>  
National Cancer Institute: <http://www.cancer.gov>

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