



Incidence and Mortality

Thyroid cancer forms in the thyroid gland, an organ at the base of the throat that makes hormones that help control heart rate, blood pressure, body temperature and weight.

Cancers of the thyroid made up 2.7 percent of newly diagnosed (incidence) cancer cases in Ohio reported to the Ohio Cancer Incidence Surveillance System (OCISS) from 2009 to 2013. An average of 1,668 cases of thyroid cancer were diagnosed annually in Ohio during this time period (Table 1). The average annual age-adjusted thyroid cancer incidence rate in Ohio was 13.8 cases per 100,000, which is similar to the national (SEER) incidence rate of 13.9 per 100,000. The thyroid cancer incidence rate among females was more than three times higher than the rate among males, and the incidence rate was 41 percent higher among whites compared to blacks in Ohio during this time period. Reporting of invasive thyroid cancers in Ohio was estimated to be 99 percent complete in 2009-2013.

An average of 70 deaths from thyroid cancer occurred each year in Ohio in 2009-2013 (Table 1). Ohio's average annual age-adjusted thyroid cancer mortality rate was 0.5 per 100,000, which was the same as the U.S. mortality rate. The mortality rate was similar for males and females in Ohio and the United States during this time period.

Key Findings and Populations at High Risk

- An average of 1,668 cases of thyroid cancer were diagnosed each year in Ohio during 2009-2013.
- The thyroid cancer incidence rate in Ohio was similar to the national rate during this time period.
- Thyroid cancers occur three times more often in females than in males.
- Whites had an incidence rate 41 percent higher than blacks in Ohio.
- Unlike most other adult cancers, most people who develop thyroid cancer are between ages 25 and 65.
- Thyroid cancer has been increasing rapidly in Ohio, as it has in the United States. In Ohio, thyroid cancer incidence rates have tripled for females and doubled for males from 1996 to 2013.
- The geographic pattern of thyroid cancer was relatively sporadic in Ohio in 2009-2013.
- In Ohio, 78 percent of thyroid cancers among females and 63 percent of thyroid cancers among males were diagnosed early (local stage).
- Nationally, the five-year relative survival probability for patients with thyroid cancer is 98 percent.

Table 1. Thyroid Cancer: Average Annual Number of Invasive Cancer Cases and Deaths and Age-adjusted Incidence and Mortality Rates per 100,000 Persons by Sex, Race and Age Group in Ohio and the United States, 2009-2013

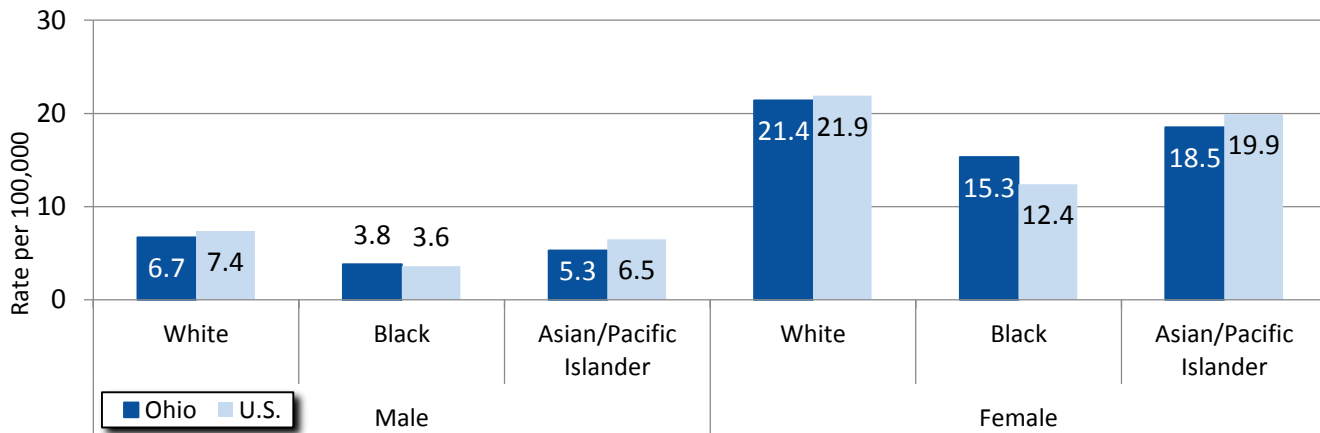
| | | Incidence | | | Mortality | | |
|--------------|------------------------|------------|-----------|-----------|-------------|-----------|-----------|
| | | Ohio Cases | Ohio Rate | U.S. Rate | Ohio Deaths | Ohio Rate | U.S. Rate |
| Total | | 1,668 | 13.8 | 13.9 | 70 | 0.5 | 0.5 |
| Sex | Male | 385 | 6.4 | 6.9 | 31 | 0.5 | 0.5 |
| | Female | 1,283 | 20.8 | 20.6 | 39 | 0.5 | 0.5 |
| Race | White | 1,469 | 14.1 | 14.7 | 62 | 0.5 | 0.5 |
| | Black | 137 | 10.0 | 8.3 | 8 | 0.6 | 0.5 |
| | Asian/Pacific Islander | 27 | 12.2 | 13.6 | <1 | * | 0.7 |
| Age Group | <65 | 1,318 | 12.7 | 12.6 | 17 | 0.1 | 0.1 |
| | 65+ | 351 | 21.1 | 22.7 | 53 | 3.1 | 3.0 |

Sources: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2016; Surveillance, Epidemiology and End Results (SEER) Program, National Cancer Institute, 2016; Chronic Disease Epidemiology and Evaluation Section and the Bureau of Vital Statistics, Ohio Department of Health, 2016; National Center for Health Statistics, 2016.

* Rate not presented when the count for 2009-2013 is less than five (i.e., the average annual count is less than one).

Incidence by Race and Sex

Figure 1. Thyroid Cancer: Average Annual Age-adjusted Incidence Rates per 100,000 Persons by Race and Sex in Ohio and the United States, 2009-2013



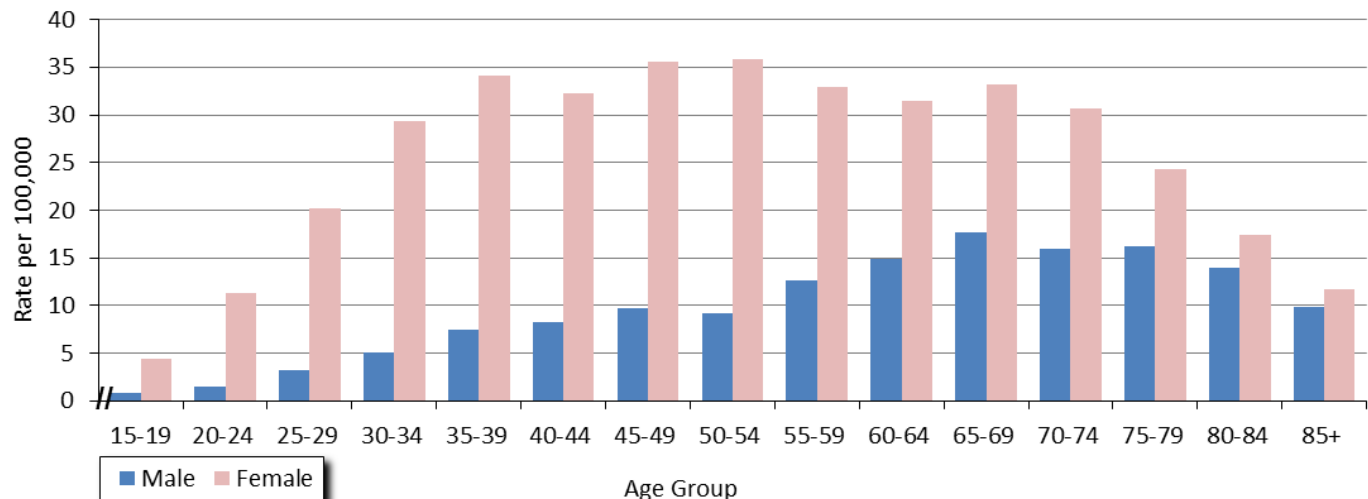
Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2016; Surveillance, Epidemiology and End Results (SEER) Program, National Cancer Institute, 2016.

Figure 1 shows the thyroid cancer age-adjusted incidence rates in Ohio among females in 2009-2013 were three times greater than those of males for each race group. The reason(s) for the large sex difference in thyroid cancer incidence rates may be related to female sex hormones or reproductive factors, although the association remains unclear. The highest thyroid cancer incidence rates were observed among white and Asian/Pacific Islander females in both Ohio and the United States. The Ohio thyroid cancer incidence rates were lower than the U.S. rates for white and Asian/Pacific Islander males and females.

Incidence by Age Group and Sex

Unlike most other adult cancers, where risk increases with age, most people who develop thyroid cancer are between ages 25 and 65. As shown in Figure 2, among Ohio females, 2009-2013 thyroid cancer incidence rates sharply increased with advancing age from ages 15-19 to ages 50-54 and then decreased among older age groups. Among Ohio males, incidence rates gradually increased with advancing age from 15-19 years to 65-69 years and then declined.

Figure 2. Thyroid Cancer: Average Annual Age-specific Incidence Rates per 100,000 Persons by Age Group and Sex in Ohio, 2009-2013



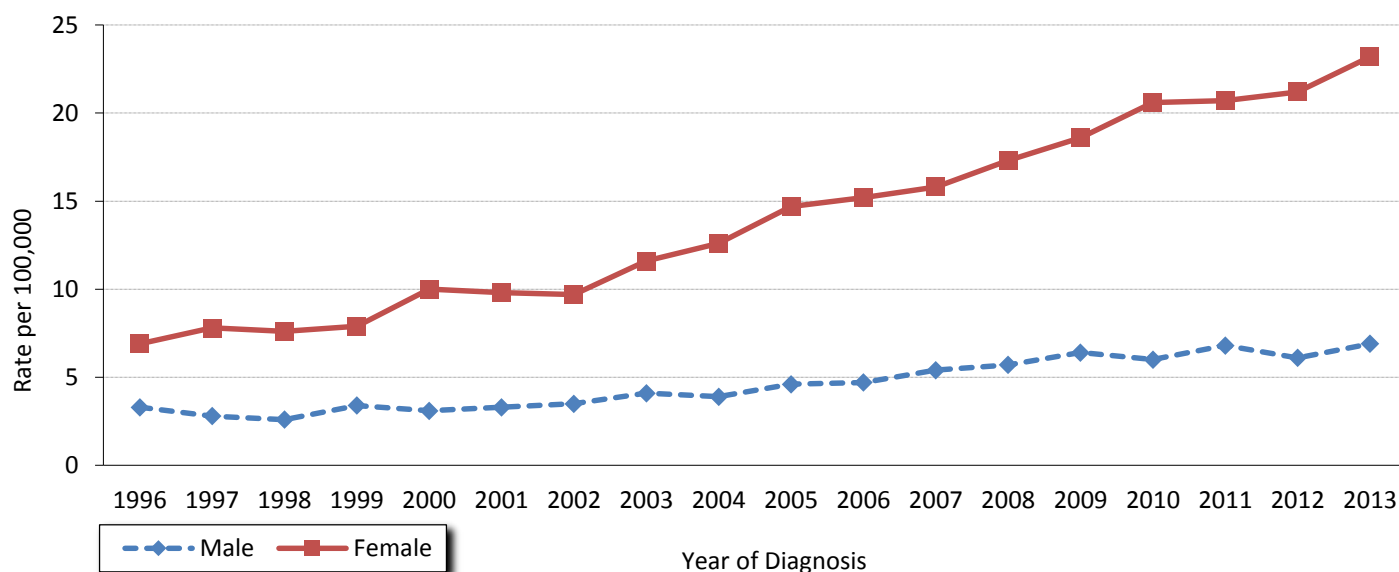
Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2016.

Trends in Rates

The incidence of thyroid cancer is increasing more rapidly than that of any other cancer in the United States. Some, although not all, of this increase can be explained by improved detection methods. Figure 3 shows incidence rates of thyroid cancer according to year of diagnosis (1996 through 2013) for males and females in Ohio. For each year, the incidence rate was higher among Ohio females compared to males. Thyroid cancer incidence rates have doubled for males and tripled for females in Ohio from 1996 to 2013.

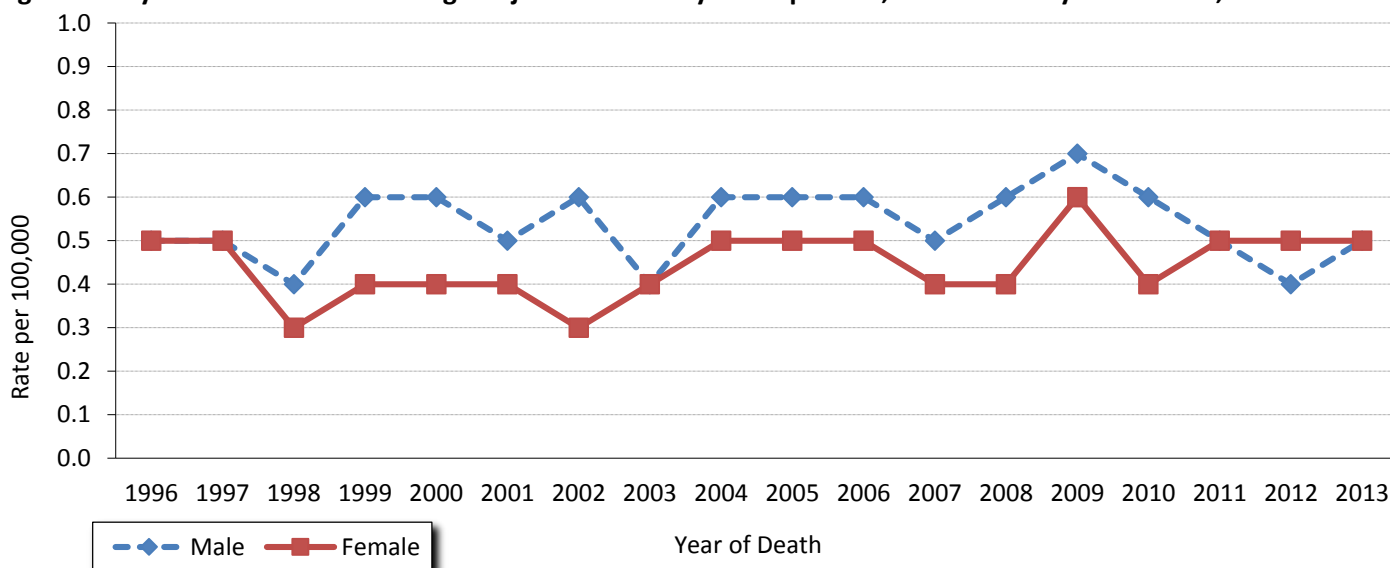
Figure 4 shows thyroid cancer mortality rates in Ohio according to year of death (1996 through 2013) for males and females. Mortality rates of thyroid cancer are low and do not show a consistent increase or decrease from 1996 to 2013. In general, thyroid cancer mortality rates were slightly higher or similar among males compared to females in Ohio during this time period.

Figure 3. Thyroid Cancer: Trends in Age-adjusted Incidence Rates per 100,000 Persons by Sex in Ohio, 1996-2013



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2016.

Figure 4. Thyroid Cancer: Trends in Age-adjusted Mortality Rates per 100,000 Persons by Sex in Ohio, 1996-2013

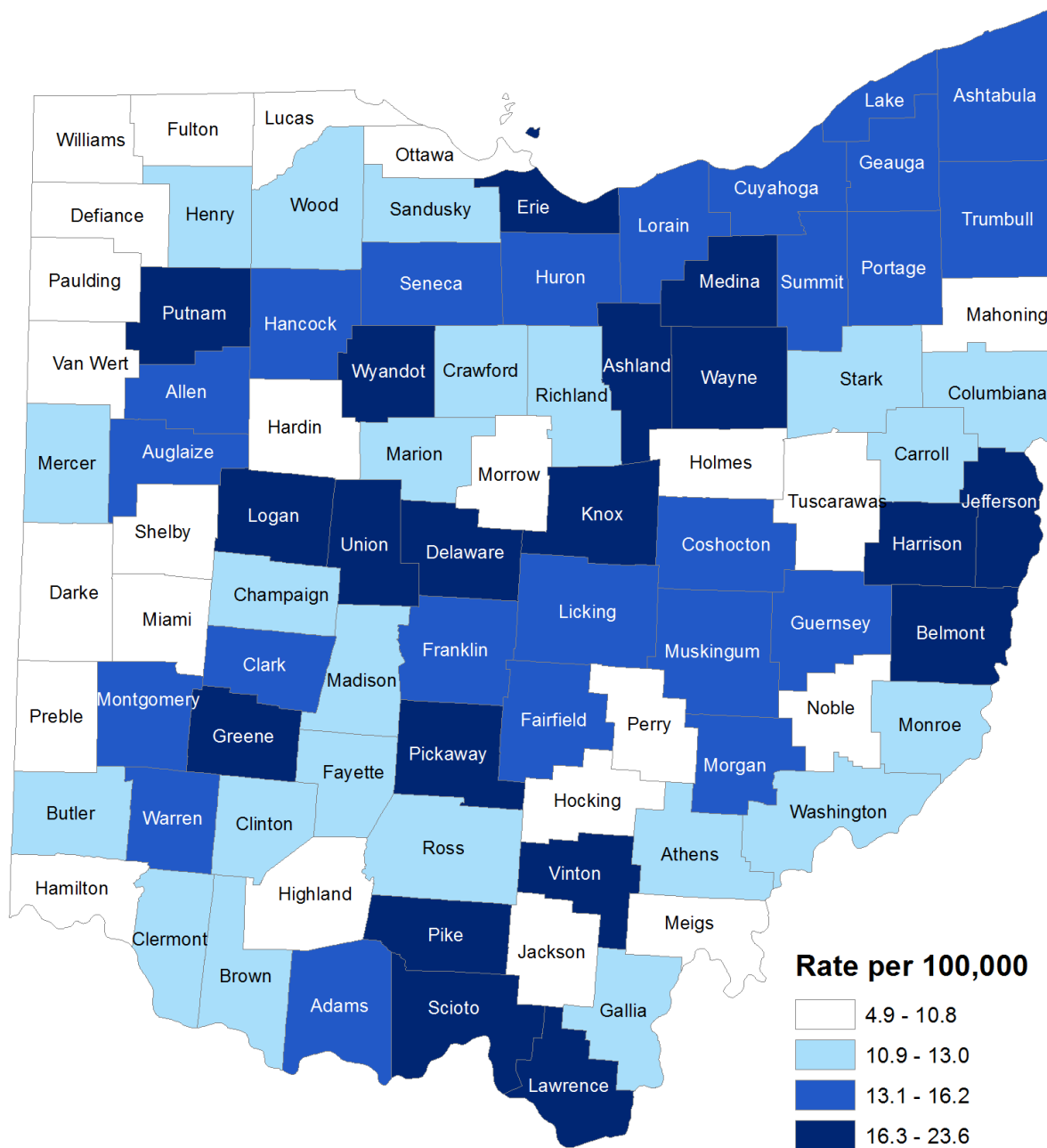


Source: Chronic Disease Epidemiology and Evaluation Section and the Bureau of Vital Statistics, Ohio Department of Health, 2016.

Incidence by County

Figure 5 shows 2009-2013 average annual age-adjusted thyroid cancer incidence rates by county of residence. County-specific thyroid cancer incidence rates in Ohio ranged from 4.9 to 23.6 per 100,000 persons, compared with Ohio’s rate of 13.8 per 100,000. The geographic pattern of thyroid cancer is relatively sporadic in Ohio. The following counties had the highest incidence rates, in decreasing order, for this time period: Jefferson, Lawrence, Ashland, Scioto, Union, Harrison, Putnam, Pike, Erie and Wayne.

Figure 5. Thyroid Cancer: Average Annual Age-adjusted Incidence Rates per 100,000 Persons by County of Residence in Ohio, 2009-2013

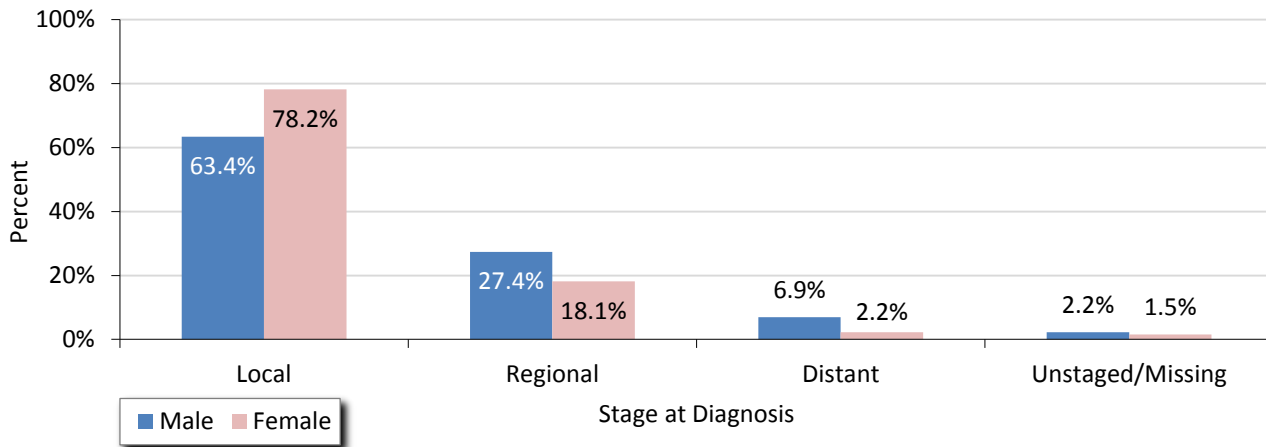


Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2016.
 Each category represents approximately 25 percent of the 88 Ohio counties.

Stage at Diagnosis

Cancer stage at diagnosis, which refers to the extent or spread of a cancer in the body, is used to select appropriate treatment and is an important determinant of survival. If a malignant tumor is confined to the organ in which it originated, it is localized (local stage). In the regional stage, the tumor has spread to surrounding organs, tissues or regional lymph nodes. In the distant stage, the malignancy has spread, or metastasized, to distant organs, tissues or lymph nodes remote from the primary tumor. In Ohio, 78 percent of thyroid cancers among females and 63 percent of thyroid cancers among males were diagnosed at an early (local) stage in 2009-2013 (Figure 6). Males were more likely than females to be diagnosed at a late (regional or distant) stage in Ohio. The percentage of thyroid cancer cases reported unstaged/missing stage in Ohio was slightly higher among males than females.

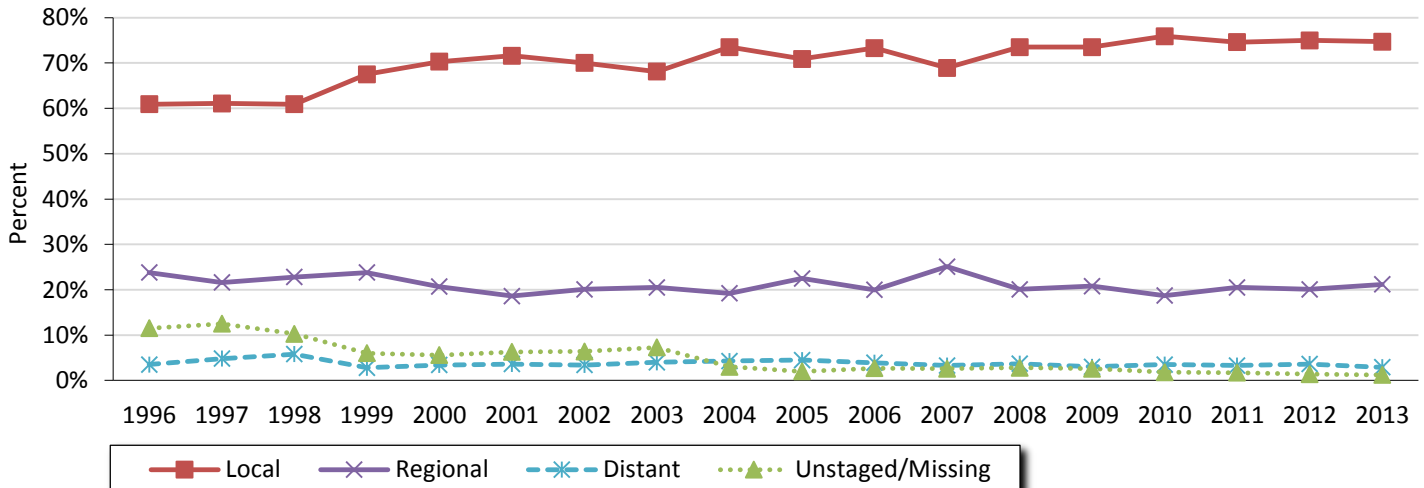
Figure 6. Thyroid Cancer: Proportion of Cases (%) by Stage at Diagnosis and Sex in Ohio, 2009-2013



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2016.

Figure 7 shows the distribution of stage at diagnosis of thyroid cancer according to year of diagnosis from 1996 to 2013. The proportion of thyroid cancer cases diagnosed at the distant stage was relatively similar for each year, whereas the proportion diagnosed at the local stage increased from 61 percent in 1996 to 75 percent in 2013. This was accompanied by decreases in the proportion of thyroid cancers diagnosed at a regional stage (24 percent in 1996 to 21 percent in 2013) and at an unstaged/missing stage at diagnosis (11 percent in 1996 to 1 percent in 2013) during this time period.

Figure 7. Thyroid Cancer: Trends in the Proportion of Cases (%) by Stage at Diagnosis in Ohio, 1996-2013



Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2016.

Survival

Table 2 shows the U.S. (SEER) five-year relative survival probability for thyroid cancer in 2006-2012 was 98.1 percent for all stages combined. Five-year relative survival probabilities were 99.9 percent at the local stage, 97.8 percent at the regional stage and only 55.3 percent for distant-stage tumors. Five-year relative survival probability was greater for females (98.7 percent) compared to males (95.7 percent) for all stages combined, as well as for each stage at diagnosis.

Table 2: Thyroid Cancer: Five-year Relative Survival Probability (%) by Stage at Diagnosis and Sex in the United States, 2006-2012

| | Male | Female | Total |
|------------------|-------|--------|-------|
| All Stages | 95.7% | 98.7% | 98.1% |
| Local | 99.8% | 99.9% | 99.9% |
| Regional | 96.2% | 98.4% | 97.8% |
| Distant | 50.4% | 58.3% | 55.3% |
| Unstaged/Missing | 83.6% | 89.7% | 88.2% |

Source: Surveillance, Epidemiology and End Results (SEER) Program, National Cancer Institute, 2016.

Types of Thyroid Cancer

The four main types of thyroid cancer are papillary, follicular, medullary and anaplastic thyroid cancer. The four types are based on how the cancer cells look under a microscope.

- **Papillary** tumors are the most common type of thyroid cancer. About 86 percent of people with thyroid cancer have this type. Papillary carcinomas usually grow slowly and usually develop in only one lobe of the thyroid gland. Most people with papillary thyroid cancer can be cured if the cancer is diagnosed early.
- **Follicular** thyroid cancer is the second most common type. Slightly more than 9 percent of people with thyroid cancer have this type. This cancer usually grows slowly, and most people with follicular thyroid cancer can be treated successfully.
- **Medullary** thyroid cancer is not common. The medullary form of thyroid cancer develops from C cells that produce the hormone calcitonin to regulate calcium metabolism. The prognosis for medullary thyroid cancer is good if it is found and treated before it has spread to other parts of the body.
- **Anaplastic** thyroid cancer, also known as undifferentiated carcinoma, is the least common type. It is thought to sometimes develop from an existing papillary or follicular cancer. It tends to grow and spread quickly, making it difficult to control.

Did You Know?

Thyroid cancer is the fifth most commonly diagnosed cancer among females in the United States, with three out of four cases occurring in women. In Ohio, incidence rates of thyroid cancer among women have tripled from 1996 to 2013. Nationally, much of the rise is thought to be due to the increased use of thyroid ultrasound, which can detect small thyroid nodules that might not otherwise have been found in the past.

Risk Factors and Populations at High Risk

A cancer risk factor is anything that increases a person's risk of developing cancer. However, having one or more risk factors does not mean that a person will develop cancer. The following have been identified as risk factors for thyroid cancer:

Sex: For unclear reasons, thyroid cancers and other diseases of the thyroid occur about three times more often in women than in men.

Age: Risk peaks earlier for women (who are most often in their 40s or 50s when diagnosed) than for men (who are usually in their 60s or 70s).

Hereditary conditions and family history: Several inherited conditions and family history have been linked to different types of thyroid cancer, such as a history of goiter or thyroid nodules, a family history of thyroid cancer, an abnormal *RET* gene which causes a hereditary form of thyroid cancer (familial medullary thyroid carcinoma) and certain rare genetic syndromes such as familial adenomatous polyposis (FAP).

Radiation: Exposure to ionizing radiation is a proven risk factor. Sources of such radiation include certain medical treatments and radiation fallout from power plant accidents or nuclear weapons. Head or neck radiation treatments in childhood are also a risk factor.

Diet low in iodine: Follicular thyroid cancers are more common in areas of the world where people's diets are low in iodine. In the United States, most people get enough iodine in their diet because it is added to table salt and other foods.

Signs and Symptoms

A palpable lump or nodule in the front of the neck, around the Adam's apple, is the primary sign of thyroid cancer. Symptoms may develop as the tumor progresses through stages. When symptoms are present, they include the following:

- A tight or full feeling in the neck
- Difficulty swallowing or breathing
- Hoarseness
- Swollen lymph nodes (especially in the neck area)
- Persistent cough not resulting from a cold
- Pain in the throat or neck that does not go away

None of these symptoms are a definitive indication of thyroid cancer; many conditions cause these symptoms.

Early Detection

Currently, there is no screening test recommended for the early detection of thyroid cancer. However, over two-thirds of thyroid cancers are diagnosed at an early stage, as symptoms usually develop early and many cancers are found incidentally.

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 five-year 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., 2009-2013). 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.

Census Data: The 1996-2013 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-July 1, 1999; revised bridged-race intercensal population estimates for July 1, 2000-July 1, 2004 (released 10/26/2012); revised bridged-race intercensal population estimates for July 1, 2005-July 1, 2009 (released 6/26/2014) and vintage 2014 bridged-race postcensal population estimates for July 1, 2010-July 1, 2013 (released 6/30/2015).

Incidence: The number of cases diagnosed during a specified time period (e.g., 2009-2013). Thyroid cancer cases were defined as follows: International Classification of Diseases for Oncology, Third Edition (ICD-O-3), code C73.9.

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.

Mortality: The number of deaths during a specified time period (e.g., 2009-2013). Thyroid cancer deaths were defined as follows: International Statistical Classification of Diseases and Related Health Problems, Ninth Edition (ICD-9), code 193 for 1996-1998 and International Statistical Classification of Diseases and Related Health Problems, Tenth Edition (ICD-10), code C73 for 1999-2013.

Rate: The number of cases or deaths per unit of population (e.g., per 100,000 persons) during a specified time period (e.g., 2009-2013). Rates may be unstable and are not presented when the count is less than five.

Stage at Diagnosis: The degree to which a tumor has spread from its site of origin at the time of diagnosis. Cancer stage is often related to survival and is used to select appropriate treatment. Patients with early stage disease often have better long-term survival, and detecting cancers at an early stage may lead to a reduction in mortality. The stages of cancer, in the order of increasing spread, are *in situ*, local, regional and distant. *In situ* and localized tumors are referred to as early stage tumors, and regional and distant tumors are termed late stage. Cancers diagnosed at the local, regional, distant and unstaged/missing stages are categorized as invasive.

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/Missing—Insufficient information is available to determine the stage or extent of the disease at diagnosis.

Survival Probability: The probability that an individual will survive a given number of years after diagnosis. Five-year relative survival probabilities are from the SEER Program 18 areas for diagnosis years 2006-2012.

Clinical Trials Information

Clinical trials test many types of treatments including new drugs, surgical procedures, radiation therapy and combinations of these. The goal of conducting clinical trials is to find better ways to treat cancer. To obtain information concerning clinical trials for thyroid cancer, please talk with your healthcare provider or visit one of the following websites:

National Cancer Institute:

<http://www.cancer.gov/about-cancer/treatment/clinical-trials>

American Cancer Society:

http://www.cancer.org/docroot/ETO/ETO_6.asp?sitearea=ETO

The Ohio State University Comprehensive Cancer Center-Arthur G. James Cancer Hospital and Richard J. Solove Research Institute:

http://cancer.osu.edu/patientsandvisitors/cancerinfo/clinical_trials/Pages/index.aspx

The Cleveland Clinic:

http://my.clevelandclinic.org/cancer/clinical_trials/default.aspx

Case Western Reserve University Comprehensive Cancer Center:

<http://cancer.case.edu/patientinfo/clinical-trials/>

University of Cincinnati:

<http://cancer.uc.edu/patientcare/ClinicalTrials/Overview.aspx>

Toledo Community Hospital Oncology Program:

<http://trials.tcop.info/clinical-trials/>

Dayton Clinical Oncology Program:

<http://www.med.wright.edu/dcop/Clinical%20Trials.htm>

Columbus Community Clinical Oncology Program:

<http://columbusccop.org/>

Sources of Data and Additional Information

Ohio Cancer Incidence Surveillance System:

http://www.healthy.ohio.gov/cancer/ocisshs/ci_surv1.aspx

National Cancer Institute:

<http://www.cancer.gov/types/thyroid>

<http://www.cancer.gov/types/thyroid/hp>

American Cancer Society:

<http://www.cancer.org/cancer/thyroidcancer/detailedguide/index>

Table 3. Thyroid Cancer: Average Annual Number of Invasive Cancer Cases and Age-adjusted Incidence Rates per 100,000 Persons by County of Residence and Sex in Ohio, 2009-2013

| | Male | | Female | | Total | | | Male | | Female | | Total | |
|-------------|------------|-------------|--------------|-------------|--------------|-------------|------------|-------|------|--------|------|-------|------|
| | Cases | Rate | Cases | Rate | Cases | Rate | | Cases | Rate | Cases | Rate | Cases | Rate |
| Ohio | 385 | 6.4 | 1,283 | 20.8 | 1,668 | 13.8 | Lawrence | 3 | 11.0 | 12 | 34.5 | 15 | 23.1 |
| U.S. | 6.9 | 20.6 | 13.9 | | | | Licking | 6 | 6.3 | 21 | 24.0 | 27 | 15.3 |
| Adams | <1 | * | 3 | 23.5 | 4 | 13.3 | Logan | 2 | 7.7 | 8 | 30.6 | 10 | 18.9 |
| Allen | 3 | 5.3 | 14 | 26.2 | 17 | 15.6 | Lorain | 12 | 7.7 | 35 | 22.4 | 47 | 15.1 |
| Ashland | 2 | 9.3 | 9 | 35.9 | 12 | 22.8 | Lucas | 11 | 4.9 | 30 | 13.1 | 40 | 9.1 |
| Ashtabula | 4 | 6.6 | 11 | 21.1 | 14 | 13.7 | Madison | 2 | 8.3 | 4 | 20.0 | 6 | 12.6 |
| Athens | 2 | 7.6 | 5 | 18.1 | 7 | 12.4 | Mahoning | 4 | 3.6 | 23 | 17.2 | 28 | 10.5 |
| Auglaize | 3 | 11.8 | 5 | 20.7 | 8 | 15.9 | Marion | 1 | 3.2 | 7 | 22.1 | 8 | 11.7 |
| Belmont | 4 | 10.3 | 11 | 29.3 | 15 | 19.1 | Medina | 7 | 7.6 | 25 | 27.5 | 32 | 17.7 |
| Brown | 1 | 3.3 | 5 | 22.1 | 6 | 12.7 | Meigs | <1 | * | 2 | 14.2 | 3 | 8.7 |
| Butler | 10 | 5.4 | 33 | 17.5 | 43 | 11.6 | Mercer | <1 | * | 4 | 17.9 | 5 | 11.0 |
| Carroll | <1 | * | 4 | 23.1 | 4 | 12.4 | Miami | 2 | 4.1 | 8 | 15.8 | 11 | 10.1 |
| Champaign | <1 | * | 4 | 19.8 | 5 | 11.9 | Monroe | <1 | * | 1 | 14.0 | 2 | 12.7 |
| Clark | 5 | 6.7 | 15 | 19.7 | 20 | 13.5 | Montgomery | 16 | 6.0 | 61 | 20.9 | 77 | 13.8 |
| Clermont | 8 | 7.8 | 17 | 16.0 | 25 | 11.9 | Morgan | <1 | * | 2 | 20.5 | 2 | 14.4 |
| Clinton | 2 | 6.5 | 4 | 17.6 | 6 | 12.2 | Morrow | <1 | * | 2 | 12.4 | 3 | 8.2 |
| Columbiana | 4 | 4.9 | 10 | 19.3 | 14 | 11.9 | Muskingum | 3 | 5.8 | 9 | 20.1 | 11 | 13.1 |
| Coshocton | 2 | 8.9 | 5 | 23.6 | 7 | 16.2 | Noble | <1 | * | <1 | * | 1 | 6.4 |
| Crawford | 1 | 4.1 | 4 | 18.7 | 6 | 11.5 | Ottawa | 1 | 4.8 | 4 | 16.6 | 6 | 10.8 |
| Cuyahoga | 44 | 6.8 | 162 | 22.3 | 207 | 14.9 | Paulding | <1 | * | 1 | 12.5 | 2 | 9.2 |
| Darke | 1 | 3.9 | 3 | 14.4 | 5 | 9.0 | Perry | <1 | * | 3 | 13.7 | 3 | 8.2 |
| Defiance | <1 | * | 3 | 13.9 | 3 | 7.8 | Pickaway | 3 | 10.3 | 7 | 24.3 | 10 | 16.7 |
| Delaware | 7 | 7.4 | 26 | 27.7 | 33 | 17.9 | Pike | 1 | 10.0 | 4 | 30.4 | 6 | 20.6 |
| Erie | 4 | 8.4 | 14 | 30.6 | 18 | 19.7 | Portage | 6 | 7.4 | 17 | 21.0 | 23 | 14.2 |
| Fairfield | 6 | 7.7 | 17 | 22.5 | 23 | 15.1 | Preble | 2 | 8.5 | 3 | 11.1 | 5 | 9.8 |
| Fayette | 2 | 9.7 | 2 | 13.8 | 4 | 11.7 | Putnam | 2 | 9.1 | 6 | 32.3 | 7 | 20.8 |
| Franklin | 42 | 7.7 | 149 | 24.2 | 191 | 16.2 | Richland | 3 | 3.6 | 14 | 21.1 | 16 | 12.1 |
| Fulton | <1 | * | 3 | 15.7 | 4 | 9.2 | Ross | 2 | 5.4 | 7 | 17.3 | 10 | 10.9 |
| Gallia | 1 | 7.1 | 3 | 18.7 | 4 | 13.0 | Sandusky | 1 | 4.0 | 7 | 21.4 | 8 | 12.8 |
| Geauga | 4 | 6.5 | 13 | 25.8 | 16 | 16.2 | Scioto | 4 | 9.6 | 14 | 35.6 | 18 | 22.5 |
| Greene | 6 | 7.7 | 21 | 25.3 | 28 | 16.7 | Seneca | 2 | 8.3 | 5 | 18.9 | 7 | 13.5 |
| Guernsey | 2 | 8.4 | 4 | 19.1 | 6 | 13.7 | Shelby | <1 | * | 5 | 20.5 | 5 | 10.6 |
| Hamilton | 20 | 5.0 | 65 | 15.4 | 85 | 10.4 | Stark | 11 | 5.6 | 42 | 19.6 | 53 | 12.9 |
| Hancock | 2 | 5.2 | 8 | 22.1 | 10 | 13.7 | Summit | 20 | 7.2 | 57 | 19.1 | 77 | 13.3 |
| Hardin | <1 | * | 2 | 13.8 | 3 | 9.3 | Trumbull | 9 | 7.5 | 22 | 18.6 | 31 | 13.1 |
| Harrison | <1 | * | 3 | 37.0 | 4 | 20.9 | Tuscarawas | 2 | 3.6 | 8 | 17.8 | 10 | 10.7 |
| Henry | <1 | * | 3 | 18.6 | 3 | 10.9 | Union | 2 | 8.4 | 10 | 33.1 | 12 | 21.6 |
| Highland | 2 | 9.1 | 3 | 9.7 | 5 | 9.4 | Van Wert | 1 | 5.9 | 2 | 16.0 | 3 | 10.8 |
| Hocking | <1 | * | 2 | 11.4 | 3 | 8.0 | Vinton | <1 | * | 2 | 24.1 | 2 | 17.7 |
| Holmes | <1 | * | 3 | 14.6 | 3 | 9.3 | Warren | 7 | 6.1 | 23 | 21.1 | 29 | 13.5 |
| Huron | 2 | 7.0 | 7 | 23.3 | 9 | 15.1 | Washington | 2 | 6.2 | 6 | 16.9 | 8 | 11.7 |
| Jackson | <1 | * | 2 | 13.1 | 2 | 7.4 | Wayne | 5 | 7.8 | 18 | 30.6 | 23 | 19.2 |
| Jefferson | 6 | 13.1 | 13 | 33.5 | 19 | 23.6 | Williams | <1 | * | 1 | 6.5 | 2 | 4.9 |
| Knox | 2 | 5.7 | 9 | 26.7 | 11 | 16.6 | Wood | 4 | 6.7 | 11 | 17.1 | 15 | 12.0 |
| Lake | 7 | 5.6 | 27 | 21.8 | 34 | 13.8 | Wyandot | 1 | 10.0 | 4 | 27.8 | 5 | 18.9 |

Source: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, 2016; Surveillance, Epidemiology and End Results (SEER) Program, National Cancer Institute, 2016.

*Rate not presented when the count for 2009-2013 is less than five (i.e., the average annual count is less than one).

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OCISS website: http://www.healthy.ohio.gov/cancer/ocisshs/ci_surv1.aspx

Acknowledgements

The following individuals contributed to this report:

John Kollman, M.S.; 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

Thyroid Cancer in Ohio, 2009-2013. Ohio Cancer Incidence Surveillance System, Ohio Department of Health, September 2016.

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The OCISS is supported in part by the State of Ohio and the Centers for Disease Control and Prevention (CDC), National Program of Cancer Registries, cooperative agreement number 6NU58DP003936. The contents are the sole responsibility of the authors and do not necessarily represent the official views of the CDC.