

Ohio Public Health Data Warehouse Cancer Technical Notes (11/3/2021)

Age Group — Age is categorized into 19 five-year age groupings, as follows: <1, 1-4, 5-9, 10-14...80-84, 85+. All persons older than 85 are grouped into the 85 and older age group.

Age-adjusted Rate (direct adjustment) — A summary rate that is a weighted average of the rates for each age group in the population (i.e., age-specific rates). The weights used in adjustment represent the age distribution of a standard population. Age-adjusted rates allow for [1] comparison of rates between populations with different age distributions and [2] comparison of rates within a population over time. The Ohio age-adjusted cancer rates are standardized to the age distribution of the U.S. 2000 standard population. To generate the age-adjusted rates, age-specific rates are calculated for 19 five-year age groups (i.e., <1, 1-4, 5-9, 10-14...80-84, 85+), multiplied by the standard population proportion for the respective age group and summed to give an overall age-adjusted rate.

Age-specific Rate — The number of cases in a specified age group, per unit of population in that age group (i.e., per 100,000 persons), over a specified time period.

Appalachia/Non-Appalachia — The Appalachian Regional Commission defines the Appalachia Ohio region as consisting of the following 32 counties: Adams; Ashtabula; Athens; Belmont; Brown; Carroll; Clermont; Columbiana; Coshocton; Gallia; Guernsey; Harrison; Highland; Hocking; Holmes; Jackson; Jefferson; Lawrence; Mahoning; Meigs; Monroe; Morgan; Muskingum; Noble; Perry; Pike; Ross; Scioto; Trumbull; Tuscarawas; Vinton; and Washington. The 32 Appalachian counties stretch south along the Ohio River and as far north as Lake Erie. The remaining 56 counties in Ohio are defined as non-Appalachia.

Cancer Case — All primary malignancies diagnosed among Ohio residents and reported to the OCISS. Cases are categorized based on the International Classification of Diseases for Oncology, Third Edition (ICD-O-3), World Health Organization, Geneva, Switzerland, 2000. Data are presented for 24 cancer site/type groupings (including Other Sites/Types) created in the manner of the Surveillance, Epidemiology and End Results (SEER) Program at the National Cancer Institute. Cancer site/type groupings by ICD-O-3 code are presented in Table 1 below. Case counts represent the number of primary cancers reported to the OCISS, not the number of persons; one person may be diagnosed with more than one primary tumor (e.g., Melanoma of Skin and Lung & Bronchus) and therefore counted as more than one case.

Census Tract — Identifies the census tract within which the person resides at the time of cancer diagnosis. Census tract boundaries are based on the 2010 U.S. Census. The census variable has a length of six characters and is zero filled to six positions. This variable applies to cancer data for diagnosis years 2008 and beyond. Select County along with Census Tract, because some census tract numbers may be used in more than one county.

County — The Ohio county of residence of the person at the time of cancer diagnosis.

Crude Rate — The total number of cases, per unit of population (i.e., per 100,000 persons), during a specified time period.

Ethnicity — The heritage, nationality group, lineage, or country of birth of a person or his parents or ancestors before their arrival in the United States. People who identify their origin as Spanish, Hispanic, or Latino may be of any race. Ethnicity is coded as Non-Hispanic, Hispanic (includes Mexican; Puerto Rican; Cuban; South or Central American; Dominican Republic; Spanish, Not Otherwise Specified; Hispanic, Not Otherwise Specified; Latino, Not Otherwise Specified; and Other Specified Spanish/Hispanic (includes European)), or Unknown.

Histology — Identifies the microscopic anatomy of cells. Histology, also known as cancer “type”, is a basis for staging and the determination of treatment options. It also affects the prognosis and course of the disease. Histology is coded using the International Classification of Diseases for Oncology, Third Edition (ICD-O-3).

Incidence — The number of new cases diagnosed in a population during a specified time period. Incidence counts and rates include invasive cancers only (except for *in situ* bladder cancers, which are also included in incidence rates).

Invasive Cancer — A malignant tumor that has infiltrated the tissue of the organ of origin.

Malignant — A cancerous condition. Malignant tumors can invade and destroy nearby tissue and spread to other parts of the body.

Population-based — The OCISS registry is a population-based cancer surveillance system, meaning that cancer incidence data are collected for all cases diagnosed among Ohio residents.

Primary Site — The site where the cancer originated. Additional tumors that result from the spread (metastasis) of cancer to another organ are not counted as incident cancers.

Race — Identifies the primary race of the person. Race information is recoded into six categories: White, Black, Asian/Pacific Islander, American Indian/Alaska Native, Other, and Unknown.

Rate — The number of cases, per unit of population (i.e., per 100,000 persons), over a specified time period.

Sex — Cancer cases of male and female sex are displayed in cancer incidence data, while persons of other sexes (i.e., hermaphrodite or transsexual) are excluded due to lack of a census population denominator.

Sex-specific Cancer — Cancer sites/types that apply to only one sex are called sex-specific cancers (i.e., prostate, testis, ovary, uterus and cervix). Hence, rates for sex-specific cancers are calculated using the population denominator for the associated sex for that cancer site/type. Please note: Breast cancer may occur among both males and females; thus, rates of breast cancer are calculated using a denominator

for the total population. Female breast cancer rates may be obtained by selecting sex as a variable choice or filtering to females only.

Site/Type — ICD-O-3 code groupings developed by the SEER Program to categorize and collapse the various sites and types (histologies) of cancer. The 23 SEER cancer site/type groupings (Other Sites/Types are excluded) are outlined in Table 1.

Stage at Diagnosis — The degree to which a tumor has spread from its site of origin at the time of diagnosis. The cancer stages, in order of increasing spread, are *in situ*, localized (or local), regional, and distant (see definitions below). Cancer stage is often related to survival and is used to select appropriate treatment. Patients with early stage disease have better long-term survival, and detecting cancers at an early stage may lead to a reduction in mortality. In addition, a number of cancers are reported to the OCISS unstaged or with missing stage at diagnosis. *In situ* cancers (with the exception of bladder cancer) are not included in incidence counts and rates.

In situ — A malignant tumor that has not penetrated the basement membrane or extended beyond the epithelial tissue.

Localized — An invasive malignant tumor that is confined entirely to its site of origin.

Regional — An invasive malignant tumor that has spread by direct extension to adjacent organs or tissues and/or has spread to regional lymph nodes but appears to have spread no further.

Distant — An invasive malignant tumor that has spread by direct extension beyond adjacent organs or tissues and/or metastasized to distant lymph nodes or tissues.

Unstaged/Missing — Insufficient information is available to determine the stage of disease at the time of diagnosis, or the case was reported with missing stage data.

Early Stage/Late Stage — *In situ* and localized stage cancers are categorized as “early stage,” and regional and distant stage cancers are categorized as “late stage.”

Year — The calendar year of the date of initial diagnosis.

ZIP Code — Identifies the 5-digit postal code of the person’s address at diagnosis.

Table 1: Ohio Cancer Incidence Surveillance System Cancer Site/Type Groupings, International Classification of Diseases for Oncology, Third Edition (ICD-O-3)

Cancer Site/Type ^{1,2}	ICD-O-3 Site and Histology (Type) Codes ³
All Cancer Sites/Types	C000-C809
Bladder	C670-C679
Brain and Other CNS ⁴	C700-C729
Breast	C500-C509
Cervix	C530-C539
Colon and Rectum	C180-C189, C199, C209, C260
Esophagus	C150-C159
Hodgkin Lymphoma	Types 9650-9667
Kidney and Renal Pelvis	C649, C659
Larynx	C320-C329
Leukemia	Types 9826, 9835-9836; C420, C421, C424 (Types 9811-9818, 9837, 9823, 9827); Types 9820, 9832-9834, 9940, 9840, 9861, 9865-9867, 9869, 9871-9874, 9895-9897, 9898, 9910-9911, 9920, 9891, 9863, 9875-9876, 9945-9946, 9860, 9930, 9801, 9805-9809, 9931, 9733, 9742, 9800, 9831, 9870, 9948, 9963-9964
Liver and Intrahepatic Bile Duct	C220-C221
Lung and Bronchus	C340-C349
Melanoma of Skin	C440-C449 (Types 8720-8790)
Multiple Myeloma	Types 9731-9732, 9734
Non-Hodgkin Lymphoma	C024, C098, C099, C111, C142, C379, C422, C770-C779 (Types 9590-9597, 9670-9671, 9673, 9675, 9678-9680, 9684, 9687-9691, 9695, 9698-9702, 9705, 9708-9709, 9712, 9714-9719, 9724-9729, 9735, 9737-9738, 9811-9818, 9823, 9827, 9837); All sites except C024, C098-C099, C111, C142, C379, C422, C770-C779 (Types 9590-9597, 9670-9671, 9673, 9675, 9678-9680, 9684, 9687, 9688, 9689-9691, 9695, 9698-9702, 9705, 9708-9709, 9712, 9714-9719, 9724-9729, 9735, 9737, 9738); All sites except C024, C098-C099, C111, C142, C379, C420-C422, C424, C770-C779 (Types 9811-9818, 9823, 9827, 9837)
Oral Cavity and Pharynx	C000-C009, C019-C029, C079-C089, C040-C049, C030-C039, C050-C059, C060-C069, C110-C119, C090-C099, C100-C109, C129, C130-C139, C140-C142, C148
Ovary	C569
Pancreas	C250-C259
Prostate	C619
Stomach	C160-C169
Testis	C620-C629
Thyroid	C739
Uterus	C540-C549, C559

[1] Source of Table: Ohio Cancer Incidence Surveillance System, Ohio Department of Health, March 2016, adapted from the International Classification of Diseases for Oncology, Third Edition, World Health Organization, Geneva, 2000 and Site Recode ICD-O-3/WHO 2008 Definition, Surveillance, Epidemiology and End Results (SEER) Program, National Cancer Institute.

[2] Types 9590-9989 are excluded for all cancer sites except where indicated.

[3] "Other Sites/Types" includes all additional cancers not defined in this SEER cancer site/type grouping.

[4] CNS = Central Nervous System.