CANCER STATISTICS REVIEW 1975-2017: INTRODUCTION

The annual *SEER Cancer Statistics Review* (***CSR***) contains incidence, mortality, prevalence, and survival statistics from 1975 through the most recent year for which data are available. This report is published by the Surveillance Research Program of the National Cancer Institute, which manages the Surveillance, Epidemiology, and End Results (SEER) Program. The scope and purpose of the ***CSR*** follow a report to the Senate Appropriations Committee (Breslow, 1988), which recommended that a broad profile of cancer be presented regularly to the American public.

The SEER program is an authoritative source of information on cancer incidence and survival in the United States. SEER collects and publishes these statistics from population-based registries covering 34% of the US population. The SEER registries routinely collect data on patient demographics, primary tumor site, tumor morphology, extent of disease, first course of treatment, and active follow-up for vital status. Detailed information describing these fields can be found at https://seer.cancer.gov/data-software/.

This report presents statistics on 29 primary sites and subsites, organized into site-specific chapters. Detailed statistics on cancer incidence, mortality, survival, and prevalence are reported by sex, race and ethnicity, age, stage at diagnosis, and geographic area. Information on tumor morphology is also presented. In addition, the ***CSR*** features a chapter on adolescent and young adult cancers and a chapter on childhood cancers. Information on some rare cancers can be found in the summary tables of Section 1. For a detailed list of primary sites, the summary tables provide incidence and death rates for the most recent 5-year period, trends from 1975 to the most recent year, median age at diagnosis, median age at death, and survival rates.

Delay-adjusted cancer incidence rates are a distinctive feature of the ***CSR***. Delay-adjustment corrects the current case count to account for underreporting and corrections to the data. The final delay-adjusted rates are valuable in more precisely estimating trends.

Changes in methodology to the ***CSR*** include:

- Starting with the 1975-2017 SEER Data (November 2019 Submission), SEER no longer excludes Louisiana cancer cases in the research data or statistical reporting. All cancer cases diagnosed in the Louisiana Cancer Registry are now included as part of SEER 18 and SEER 21 analyses that include diagnosis year 2005. Previous releases of the Cancer Statistics Review excluded 6 months of data from Louisiana (July-Dec 2005) for most types of analyses, and some analyses excluded all Louisiana cases because of issues with completeness of cases reported to the registry during the second half of 2005 related to Hurricane Katrina. For more details, see https://seer.cancer.gov/data/hurricane.html

- The childhood cancer chapter in the CSR was produced using an updated ICCC recode (Steliarova-Foucher et al., In press). For more detailed information on the updated recode please see the following: https://seer.cancer.gov/iccc/iccc-iarc-2017.html

The ***CSR*** files are provided in both PDF and HTML formats. The HTML format is provided as an alternative and accessible version of the *SEER Cancer Statistics Review*. The current edition of the ***CSR*** is available on the web at https://seer.cancer.gov/csr/. Statistics from SEER may also be obtained via SEER*Explorer (https://seer.cancer.gov/explorer/) or ***Cancer Query Systems*** (https://seer.cancer.gov/canques/), which allow the user to access over 10,000,000 cancer statistics. The SEER Research Data file (https://seer.cancer.gov/data/) may be accessed by the public through ***SEER*Stat*** software.

While most of the rates in this publication have been age-adjusted to the 2000 US standard population, some previous SEER publications have used the 1970 US standard million population. Therefore, rates given in this publication cannot be compared to rates given in those publications. This change conforms to a federal policy for reporting disease rates; it allows for the age-adjusted rate to more accurately reflect the current age distribution and burden of cancer.

INTERPRETATION OF CANCER STATISTICS

A number of factors may affect the interpretation of cancer incidence, mortality, and survival statistics provided in this report.

Survival rates for all cancers combined: The mix of cancers changes over time as the incidence of some cancers increases and the incidence of others decreases. The overall cancer survival rate can fluctuate even when the survival rates for site-specific cancers remain unchanged. (While it is possible to adjust the survival rate for all cancers combined on the basis of the relative frequencies of the component cancers, rates adjusted in this manner differ by only a small amount from unadjusted rates. In the future, such an adjustment may become more important if there are substantial changes in the incidence of various cancers.)

Early detection/screening: The improved earlier detection and diagnosis of cancers caused by new screening procedures may produce an *increase* in both incidence rates and survival rates. These increases can occur as a result of the introduction of a new procedure to screen subgroups of the population for a specific cancer; they need not be related to whether use of the screening test results in a decrease in mortality from that cancer. As the proportion of cancers detected at screening increases, presumably as a result of increased screening of the population, patient survival rates will *increase*, because they are based on survival time *after diagnosis*. The interval between the time a cancer is diagnosed by a screening procedure and the time when the cancer would have been diagnosed in the absence of screening is called **lead-time** (Zelen, 1976). (Screening for breast cancer has been demonstrated to result in

increased survival over and above that resulting from lead-time alone and to reduce breast cancer mortality. The benefit of screening is being studied for some other cancers.)

If a new screening procedure consistently detects cancer in a *preinvasive* phase, it may result in a *decrease* in survival rates for *invasive* cancer. In this case, **length-biased sampling** (Zelen, 1976) may be operating. Length-biased sampling would result in the preferential detection—in a preinvasive phase—of those cancers that would have had a relatively good prognosis had they progressed to invasive disease; these potentially invasive cancers would be systematically eliminated. If this occurs, the mix of cancers that are not detected at screening and then progress to invasive behavior may become less prognostically favorable, resulting in a *decrease* in survival rates for patients with invasive cancers. (Length-biased sampling may at least partially explain survival trends for cervical cancer. Other cancers possibly affected include breast, colon, rectum, and prostate.)

Changes in diagnostic criteria: Early detection of cancer resulting from either screening or earlier response to symptoms may result in the increasing diagnosis of small tumors that are not yet life-threatening. This may have the effect of raising the incidence rates and survival estimates without changing the mortality rates. Breast, colon, prostate, cervix uteri, bladder, and skin (melanoma) are the cancer sites most likely to be affected.

Technological advances in diagnostic procedures: In this report, trends in survival by stage at diagnosis for specific cancers are not presented; trends in stage distributions are presented rarely. However, it is possible to compare survival by stage.

The assignment of a given stage to a particular cancer may change over time due to advances in diagnostic technology. Introduction of new technology can give rise to a phenomenon known as **stage migration**. Stage migration occurs when diagnostic procedures change over time, resulting in an *increase* in the probability that a given cancer will be diagnosed in a *more advanced* stage. For example, certain distant metastases that would have been undetectable a few years ago can now be diagnosed by a computer tomography (CT) scan or by magnetic resonance imaging (MRI). Therefore, some patients who would have been diagnosed previously as having cancer in a *localized* or *regional* stage are now diagnosed as having cancer in a *distant* stage. The likely result would be to remove the worst survivors, those with previously undetected distant metastases, from the localized and regional categories and put them into the distant category. As a result, the stage-at-diagnosis distribution for a cancer may become less favorable over time, but the survival for each stage may improve: The early stage will *lose* cases that will survive *shorter* than those remaining in that category, while the advanced stage will *gain* cases that will survive *longer* than those already in that category. However, *overall survival would not change* (Feinstein et al., 1985). Stage migration is an important concept to understand when examining temporal trends in survival by stage at diagnosis as well as temporal trends in stage distributions; it could affect the analysis of virtually all solid tumors.

Evolution of stage classifications: Every few years, the American Joint Committee on Cancer produces a new cancer-staging manual; the seventh edition is the most recent (Edge et al., 2010). The evolution of such classifications reflects the identification of new prognostic factors that may influence choice of treatment. Historically, the SEER Program has only collected data on **extent of disease** (**EOD**), rather than stage. EOD is *more specific* than stage and usually determines stage, even when stage definitions change. Thus, SEER easily adapts to changes in stage definitions; moreover, trends in a newly redefined stage can usually be calculated. Recently the SEER Program has begun collecting **Collaborative Stage**. Collaborative Stage has the advantage of being a consolidated data collection system of three main staging systems (TNM, EOD, and Summary Stage) and allows combined pathological and clinical stage to be captured. New prognostic variables are introduced into staging for some cancers and so previously collected EOD data cannot determine new stage categories. There can be problems in assessing trends in stage of disease for these cancers. Only by reviewing the evolution of staging for a given cancer is it possible to determine what effects changes in stage definitions have had on stage-specific survival and on stage-at-diagnosis distributions. Stage migration (mentioned above) and EOD migration need also be taken into account. For some sites, the historic stage (*localized*, *regional*, or *distant*) is not shown, either because of inconsistencies in its definition over time or because stage is not appropriate (such as for leukemias, which are all considered to be distant at diagnosis).

Interpreting relative survival: The relative survival estimate is the ratio of observed survival to expected survival for a given patient cohort. Expected survival is based on mortality rates for the entire population, taking into account, as appropriate, the age, sex, race, and year of diagnosis of the patients. Assuming that the presence of cancer is the only factor that distinguishes the cancer patient cohort from the general population, relative survival estimates the probability that a patient will *not* die of the diagnosed cancer within the given time interval. This is the same as the probability that the patient will either survive the interval or die of a different cause.

A factor related to the risk of a cancer may also be related to the risk of dying from causes unrelated to the cancer. An example of such a factor is smoking. Smoking is a major risk factor for lung cancer; therefore, a cohort of lung cancer patients will contain a much higher proportion of smokers than the general population. However, smoking is also a risk factor for other diseases so smokers have a shorter life expectancy than nonsmokers. For this reason, expected survival estimates for lung cancer patients based on life tables for the general population will be unrealistically high; since relative survival = observed / expected, this will result in relative-survival estimates that are *lower* than they would be if the population consisted only of smokers. The problem cannot be easily corrected because separate life tables for smokers and nonsmokers are not available. Moreover, amount of smoking (usually measured in pack-years) is an important variable and cannot be easily quantified. In addition, expected survival may not be appropriate for patients with cancers of the cervix uteri or breast because the risk of these cancers has been associated with socioeconomic status (Baquet et al., 1991)

which may be related to life expectancy. This should be considered when interpreting relative survival for these cancers.

Previous to the *CSR* for 1973–1996, the expected survival tables used were for 1970 and 1980; there were separate tables for whites, blacks, American Indians, Chinese, Japanese, Filipinos, white Hispanics, and Hawaiians. In updating the tables for 1990, several problems emerged. The US life tables are based on age, race, and sex information from death certificates. The information on race on the death certificate may not be accurate (Rosenberg et al., 1999). One reason is that funeral directors may inaccurately report race on a death certificate. Also, reported age at death, especially for those older than 85, may not be accurate because birth certificates were not issued with as much regularity in the early 1900s as they are today. Although race misclassification and age-at-death misreporting exist across all races, they may be more problematic for races other than white or black because of those races' smaller population sizes. Therefore, life tables were generated for 1970, 1980, 1990, and 2000 only for white, black, and other; these life tables were used to produce the relative survival estimates in this review. There may be small variations among survival estimates calculated in this *CSR* and those in *CSR*s prior to 1973–1996.

Comparison with other databases: The SEER data are obtained from population-based cancer registries covering about 34 percent of the US population. It is sometimes of interest to compare cancer statistics for SEER areas with those from other registries both in the US and worldwide. In making such comparisons, one must carefully consider the factors mentioned above for both data sources. In addition, one should assess all of the following: (1) completeness of case ascertainment, (2) rules used to determine multiple primaries, (3) follow-up, (4) rules used in assigning and coding cause of death, and (5) the sources and procedures used in obtaining population estimates. Depending on the rates being compared, there could be other confounding factors which should be considered. The same standard or standard million population should be used for the age-adjustment of each group being compared; most statistics from outside the US are based on the 2000 world standard million population. Examples of other databases are US Cancer Statistics (https://www.cdc.gov/cancer/uscs/) and CINA+ Online (https://www.cancer-rates.info/naaccr/).

It is sometimes of interest to compare survival for cancer patients in SEER areas with data from clinical trials. *This must be done with great caution.* Survival data from clinical trials may have been obtained from a patient population that differs from that of SEER patients in prognostic factors for the given cancer; any survival comparisons would have to adjust for such differences. Also, it is necessary to verify that the methodology used in computing survival is the same for both data sources. Furthermore, patients on clinical trials may differ from SEER patients in characteristics that may be related to survival but are not recorded in either database. If this were true for a given cancer, it would not be possible to make valid comparisons of this type.

Errors in data collection: In the process of registering cancer patients, errors may be made in abstracting and coding the data, which include demographic information, cancer site,

histology, extent of disease, treatment, and patient survival. Quality control studies are periodically carried out to detect and correct this type of error, but no attempt is made to incorporate this source of error into the variance estimates of cancer rates reported here.

Comparison of this report with previous reports: The cancer registries that participate in the SEER Program submit data on all cancers diagnosed in their coverage areas to the NCI each year. Because of the dynamic nature of the registries' databases, *the reported number of new cancer cases in a particular race, sex, age, cancer category in a given calendar year may change from that which has been reported in a previous publication.* For a given diagnosis year, additional cancer cases that were previously overlooked may have been found and reported to the central registry. There may have been follow-back of cancers diagnosed by death certificate only; successful efforts to establish the dates of diagnosis for such patients will change the number of patients reported for a given diagnosis year. Code changes may occur when a patient dies; for example, information on race is generally available on the death certificate and may be used to update a previously unknown value. There may have been elimination of duplicate records for the same patient, often due to name changes or misspellings.

Thus, a recent report may have a different number of cases for a given diagnosis year than an earlier report, with resulting effects on incidence and possibly survival. Population estimates may also change from one report to another for some calendar years. This occurs because the NCI receives population estimates that are regularly revised and updated by the Bureau of the Census (**BOC**). Such changes may result in some differences between incidence and mortality rates for a given calendar period as published in different reports. See our website for the most current information about the population estimates (https://seer.cancer.gov/popdata/).

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TECHNICAL NOTES

There are four measures commonly used to assess the impact of a cancer in the general population and are reported in this review. The **incidence rate** is the number of new cases per year per 100,000 persons. The **death** (or **mortality**) **rate** is the number of deaths per year per 100,000 persons. The survival estimate is the proportion of patients alive at some point subsequent to the diagnosis of their cancer. The **prevalence count** is the number of people alive that have ever been diagnosed with a cancer. The Surveillance, Epidemiology, and End Results (**SEER**) Program (https://seer.cancer.gov/) (based within the Surveillance Research Program (**SRP**) at the National Cancer Institute (**NCI**) collects incidence and survival data for all areas that participate in the Program. The National Center for Health Statistics (**NCHS**) provides mortality data for the entire United States (**US**). All incidence and mortality rates in this report are age-adjusted (see below) to the 2000 US standard population (see Appendix) unless otherwise specified. Age-adjustment minimizes the effect of a difference in age distributions when comparing rates.

THE SEER PROGRAM

The National Cancer Act of 1971 mandated the collection, analysis, and dissemination of data useful in the prevention, diagnosis, and treatment of cancer. This mandate led to the establishment of the SEER Program. The population-based cancer registries participating in NCI's SEER Program routinely collect data on all cancers occurring in residents of the participating areas. Trends in cancer incidence and patient survival in the US are derived from this database. See the SEER Research Data (https://seer.cancer.gov/data/) for more information.

The SEER Program is a sequel to two earlier NCI programs—the End Results Program and the Third National Cancer Survey. The initial SEER reporting areas were the States of **Connecticut**, **Iowa**, **New Mexico**, **Utah**, and **Hawaii**; the metropolitan areas of **Detroit**, Michigan, and **San Francisco-Oakland**, California; and the Commonwealth of Puerto Rico. Case ascertainment began with January 1, 1973, diagnoses.

In 1974-1975, the program was expanded to include the metropolitan area of New Orleans, Louisiana, the thirteen-county **Seattle-Puget Sound** area in the State of Washington, and the metropolitan area of **Atlanta**, Georgia. New Orleans participated in the program only through the 1977 data collection year. In 1978, ten predominantly African-American counties in **rural Georgia** were added. **American Indian residents of Arizona** were added in 1980. In 1983, four counties in New Jersey were added with coverage retrospective to 1979. New Jersey and Puerto Rico participated in the program until the end of the 1989 reporting year. The National Cancer Institute also began funding a cancer registry that, with technical assistance from SEER, collects information on cancer cases among **Alaska Native** populations residing in Alaska. In 1992, the SEER Program was expanded to increase coverage of minority populations,

especially Hispanics, by adding **Los Angeles County** and four counties in the **San Jose-Monterey** area south of San Francisco. In 2001, the SEER Program expanded coverage to include **Kentucky, Greater California** (the counties of California that were not already covered by SEER), **New Jersey,** and **Louisiana**. In 2012, **Greater Georgia** (the parts of Georgia not included in Atlanta and Rural Georgia) was added to the SEER Program, with data retroactive to 2000.

The long-term incidence trends and survival data for this report are from five states (Connecticut, Hawaii, Iowa, New Mexico, and Utah) and four metropolitan areas (Detroit, Atlanta, San Francisco-Oakland, and Seattle-Puget Sound); this set of registries is called the **SEER 9**. Additional tables show more recent incidence trends for the **SEER 13** areas (the 9 areas above plus Los Angeles, San Jose-Monterey, Alaska Native Registry, and rural Georgia) since 1992 and additional information on race and ethnicity. Other tables give statistics for the **SEER 18** areas (these are the SEER 13 plus Kentucky, Greater California, New Jersey, Louisiana, and Greater Georgia) and **SEER 21** areas (these are the SEER 18 areas plus Idaho, Massachusetts, and New York, which joined the SEER Program in 2018).

The participating regions were selected principally for their ability to operate and maintain a population-based cancer reporting system and for their epidemiologically significant population subgroups. With respect to selected demographic and epidemiologic factors, they are when combined a reasonably representative subset of the US population. Data from the 9, 13, 18, or 21 SEER geographic areas are used in this report; the given groups contain, respectively, approximately 9, 14, 28, or 37 percent of the US population. By the end of the 2017 diagnosis year, the database of the 18 SEER registries contained information on over 10 million cases diagnosed since 1975. New cases added in the most recent data year numbered over 497,000.

The goals of the SEER Program are:

1) to assemble and report, on a periodic basis, estimates of cancer incidence, mortality, survival, and prevalence in the US;
2) to monitor annual cancer incidence trends to identify unusual changes in specific forms of cancer occurring in population subgroups defined by geographic and demographic characteristics;
3) to provide continuing information on trends over time in the extent of disease at diagnosis, trends in therapy, and associated changes in patient survival; and
4) to promote studies designed to identify factors amenable to cancer control interventions, such as: (a) environmental, occupational, socioeconomic, dietary, and health-related exposures; (b) screening practices, early detection and treatment; and (c) determinants of the length and quality of patient survival.

DATA SOURCES

INCIDENCE AND SURVIVAL DATA

The SEER Program contracts with nonprofit, medically-oriented organizations having statutory responsibility for registering diagnoses of cancer among residents of their respective geographic coverage areas. Each SEER contractor:

1) maintains a cancer information reporting system;
2) abstracts records for *resident* cancer patients seen in every hospital both inside and outside the coverage area;
3) abstracts all death certificates of *residents* (dying both inside and outside the coverage area) on which cancer is listed as a cause of death;
4) strives for complete ascertainment of cases by searching records of private laboratories, radiotherapy units, nursing homes, and other health services units that provide diagnostic service;
5) registers all in situ and malignant neoplasms (with the exceptions of certain histologies for cancer of the skin and—beginning in 1996—in situ neoplasms of the cervix uteri);
6) records data on all newly diagnosed cancers, including selected patient demographics, primary site, morphology, diagnostic confirmation, extent of disease, and first course of cancer-directed therapy;
7) provides active follow-up on all living patients (except for those with in situ cancer of the cervix uteri);
8) maintains confidentiality of patient records;
9) at least annually submits electronically to NCI data on all reportable diagnoses of cancer made in residents of the coverage area.

For 1992 to 2000 diagnoses, the SEER program codes site and histology by the *International Classification of Diseases for Oncology*, second edition (**ICD-O-2**) (Percy et al., 1990). All cases before 1992 were machine-converted to ICD-O-2. Cases diagnosed 2001-2009 have been coded according to the third edition (**ICD-O-3**) (Fritz et al., 2000). Starting with patients diagnosed in 2007, the new multiple primary and histology coding rules may impact their incidence data for some cancer sites (e.g., female breast). However, the impact of the new rule on observed incidence is negligible for a majority of the cancer sites. To learn more about the multiple primary rules, visit: https://seer.cancer.gov/tools/mphrules/. Beginning with 2010 diagnoses, cases are coded based on ICD-O-3 updated for hematopoetic codes based on *WHO Classification of Tumours of Haematopoietic and Lymphoid Tissues* (2008). The primary site groupings used for incidence are found in the Appendix. Changes were made to the site recode for ICD-O-2 for comparability with cases coded to ICD-O-3. Follow-up rates are also in the Appendix.

MORTALITY DATA

The SEER Program annually obtains from the National Center for Health Statistics (NCHS) a file containing information on all deaths occurring in the US by calendar year. Information on each death includes age at death, sex, geographic area of residence, and underlying and contributing causes of death. For this publication, only the underlying cause of death is used in the calculation of death rates. Cause of death for 1969-1978 was coded according to ICD-8; for 1979-1998, ICD-9 was used; beginning with deaths in 1999, ICD-10 was used. Mortality rates for the SEER geographic areas, for each state, and for the entire US are obtained from these data. A list of the mortality site groupings used in this publication is in the Appendix and reflects updates made in 2004.

POPULATION DATA

The population estimates used in the SEER*Stat software to calculate cancer incidence and mortality rates for this report are a modified version of the intercensal and Vintage 2017 annual time series of July 1 county population estimates by age, sex, race, and Hispanic origin that are produced by the Population Estimates Program of the US Census Bureau (https://www.census.gov/programs-surveys/popest.html) with support from the NCI through an interagency agreement. Descriptions of the methodologies employed by the Census Bureau for various sets of estimates may be found on the same website. Vintage 2017 population estimates were used; these estimates were developed from the actual 2010 census results.

County population estimates for 2000 and later years must be bridged from 31 race categories used in Census 2000 to the four race categories specified under the 1997 OMB standards in order to report long-term cancer trends. The bridging methodology was developed by the National Center for Health Statistics and is described in a report (Ingram et al., 2003) and on their website http://www.cdc.gov/nchs/nvss/bridged_race.htm

Modifications made by the NCI to the population estimates are documented in “Population Estimates Used in NCI’s SEER*Stat Software” (https://seer.cancer.gov/popdata/methods.html) and the population data files are available for download (see “Download US Population Data” from https://seer.cancer.gov/popdata/download.html). Several of the modifications pertaining to the grouping of specific counties needed to assure the compatibility of all incidence, mortality and population datasets. Another modification affects only population estimates for the State of Hawaii. The Epidemiology Program of the Hawaii Cancer Research Center has developed its own set of population estimates, based on sample survey data collected by the Hawaii Department of Health. This effort grew out of a concern that the native Hawaiian population has been vastly undercounted in previous censuses. The "Hawaii adjustment" to the Census Bureau’s estimates has the net result of reducing the estimated white population and increasing the estimated Asian and Pacific Islander population for the state. The estimates for the total population, black population, and American Indian and Alaska Native populations in Hawaii are not modified.

The cancer incidence and mortality rates for American Indians and Alaska Natives (AI/AN) are based on the geographic areas (counties) included in the Indian Health Service's Purchased/Referred Care Delivery Areas (PRCDA) (formerly CHSDA). This reflects a concern that previously reported AI/AN rates were underestimated due to racial/ethnic misclassification of American Indian cases in geographic areas outside of PRCDA. This change has the net effect of higher, and more accurate, incidence and mortality rates for this population.

The U.S. populations included with the SEER data releases have been adjusted for the population shifts due to hurricanes Katrina and Rita for 62 counties and parishes in Alabama, Mississippi, Louisiana, and Texas. For more details, see https://seer.cancer.gov/popdata/methods.html.

2000 US STANDARD POPULATION

Starting with the November 2004 SEER submission of data (diagnoses through 2002), the SEER Program age-adjusts using the 2000 US standard population based on single years of age from the Census P25-1130 series estimates of the 2000 US population (Day, 1996). For the *CSR*, 19 age groupings were used for age-adjustment: <1, 1–4, 5–9, … , 80–84, 85+.

STATISTICAL METHODS

ESTIMATED CANCER CASES AND DEATHS IN 2019

The American Cancer Society (**ACS**) projects the numbers of new cancer cases and cancer deaths in the US in 2019 (Cancer Facts & Figures – 2018, American Cancer Society). The ACS projects incidence in 2019 based on incidence rates for 2000-2014 from 50 states and the District of Columbia, representing about 98% of the US population. These high-quality incidence data were submitted to the North American Association of Central Cancer Registries (NAACCR) by 50 states (and District of Columbia) belonging to the SEER Program and/or the National Program of Cancer Registries (NPCR).

LONG-TERM TRENDS, 1950-2017

Trends in cancer mortality from 1950 to 2017 are summarized by age both for all cancers combined and for lung cancer (Table 1-2). These cancer mortality trends are based on the mortality experience in the entire US. Summaries of long-term trends back to 1950 in cancer survival are also shown for whites. Use caution when interpreting these statistics. Evaluating trends over a long period of time may hide recent changes in the trends.

YEARS OF LIFE LOST DUE TO PREMATURE DEATH FROM VARIOUS CAUSES

Death rates alone give an incomplete picture of the burden that deaths impose on the population. Another measure is the years of life lost due to premature death. This shows the

extent to which life is cut short by a particular cause or disease.

This measure is estimated by linking life table data to each death of a person of a given age and sex. The life table permits a determination of the number of additional years an average person of that age, race, and sex would be expected to live. In this report, the age groups used in the calculation were 1-year intervals. These remaining years of life left are summed over all deaths due to a particular cause, yielding the estimate of the number of person-years of life lost (**PYLL**). The average years of life lost (**AYLL**) is obtained by dividing the PYLL by the number of deaths. Both of these measures can be calculated for any cause of death.

RELATIVE SURVIVAL

Relative survival (Ederer, 1961) was developed to provide an objective measure of the probability of survival of cancer in the absence of other causes of death. It is a measure that is not influenced by changes in mortality from other causes and, therefore, provides a useful measure for both tracking survival across time and comparisons between racial/ethnic groups or between registries. Cause-of-death information obtained from death certificates can be unreliable due to misclassification error (e.g. the site of recurrence being classified as the cause of death. Therefore, instead of calculating the probability of surviving cancer in the usual (cause-specific) way, considering deaths from other causes as censoring events, relative survival compares the observed survival proportion of a group of cancer patients with the survival of a "similar" theoretical cancer-free group. Relative survival is formally defined as the ratio of the observed survival (all causes of death) of a cohort of cancer patients to the expected survival of a comparable set of cancer-free individuals. Since a cohort of cancer-free individuals is difficult to obtain, life tables representing survival of the general population are used instead. The underlying assumption is that the cancer deaths are a negligible proportion of all deaths. To learn more on this topic, visit: https://surveillance.cancer.gov/survival/measures.html.

Expected survival can be calculated using different methods which vary with respect to the definition of the matching group. The most common methods are: Ederer I (Ederer, et al., 1961), Ederer II (Ederer and Heise, 1959) and Hakulinen (Hakulinen, 1982) and Pohar-Perme. Since 2012, we use the Ederer II (instead of Erderer I used previously) method to estimate the expected rate in SEER*Stat and the CSR. This method has shown to be a mess biased estimate of net survival. For more detail regarding this topic, read Cho et al., 2012 at: https://surveillance.cancer.gov/reports/. As of 2013, Survival time was calculated using pre-calculated months based on the exact day information. See https://seer.cancer.gov/survivaltime/ As of 2014, the default censoring age for survival calculations has changed from 199 to 99 year when using newly available expected survival tables. Minimal changes may occur in survival for older age groups. See https://seer.cancer.gov/expsurvival/ for more information.
We use national life tables by age, calendar year and race (whites, black, other races) to estimate expected survival. Other races include both Asian or Pacific Islanders (API), and lowest for American Indians and Alaskan Natives (AIAN). In 2017 we constructed state and race specific life tables by county of residence socio-economic status from 1992 forward. As of 2018

these life tables will be used as the default to estimate expected survival for that only include cases diagnosed after 1992 (for example SEER (2000+).

The state/race/SES life table were constructed using counts of deaths and populations by county, single year age at death (30 to 84 years), race/ethnicity, sex, and calendar year 1992-2013. We used mutually exclusive race/ethnicity groups: Non-Hispanic (NH) White, NH Black, NH AIAN, NH API, and Hispanics (hereafter we exclude the NH prefix when referencing race/ethnicity). Hispanic ethnicity includes all race categories. Because of misclassification errors of AIAN race in death certificates, we restricted the AIAN data to mortality rates from Purchased/Referred Care Delivery Areas (PRCDA) counties. We fit Poisson regression models to the log of mortality rates to estimate the life tables separately for men and women and each race/ethnicity. Age and calendar year were modeled as spline functions to capture non-linear effects. The models varied by geographic area (state, region, and national) and the inclusion or not of the SES index as a covariate depending on sufficient numbers of deaths and population counts for each race-ethnicity. For more details on the methods and data to estimate life tables a technical is available on request.

CAUSE-SPECIFIC SURVIVAL

Cause-specific survival is a net-survival measure representing survival of a specified cause of death in the (theoretical) absence of other causes of death. Estimates are calculated by specifying the cause of death. Individuals who die of causes other than the specified cause are censored. This requires a cause-of-death variable that accurately captures all causes related to the specific cause. Cancer registries use algorithms to process causes of death from death certificates in order to identify a single, disease-specific, underlying cause of death. In some cases, attribution of a single cause of death may be difficult and misattribution may occur. For example, a death may be attributed to the site of metastasis instead of the primary site (Percy et al., 1981).

To capture deaths related to the specific cancer but not coded as such, the SEER cause-specific death classification variable is defined by taking into account causes of deaths in conjunction with tumor sequence (i.e., only one tumor or the first of subsequent tumors), site of the original cancer diagnosis, and comorbidities (e.g., AIDS and/or site-related diseases). To learn more on this topic, please read the recent article published at the Journal of National Cancer Institute (Howlader et al., 2010) or visit: https://seer.cancer.gov/causespecific/.

CANCER PREVALENCE

METHODS: In this report prevalence is calculated at 1/1/2017. Limited-duration prevalence is calculated using the counting method implemented in the SEER*Stat software. This method calculates the number or proportion of people alive at the prevalence date who had a diagnosis of the disease within the past *x* years (e.g., *x* = 5, 10, 20, or the full history of the registry). With the release of the 1975-2017 Cancer Statistics Review, the calculation of all complete and limited-duration prevalence estimates were modified to use data from the SEER 13 areas not including the Alaska Natives Registry using cases diagnosed from 1992 through 2017.

The limited-duration prevalence method includes a correction for people lost to follow-up. For each individual lost to follow-up, a probability of being alive at the prevalence date is estimated from an appropriate survival function stratified by age at diagnosis (0–59, 60–69, 70+), sex, cancer site, year of diagnosis, and race, conditional on being alive at the time of loss to follow-up. Year of diagnosis is stratified into 5-year groups from the prevalence date, with the least recent interval being of varying length (4-8 years), depending on the length of years used to calculate prevalence. Race is stratified into white, black, other (American Indian/Alaska Native, Asian/Pacific Islander), and unknown/other-unspecified. When we use the SEER 13 registries, the same stratification as before is used, with American Indian/Alaska Native separated from Asian/Pacific Islander. Prevalence calculations for Hispanics use race stratified into: white, non-white, and unknown.

Different methods can be used to determine which tumors are to be included for people diagnosed with multiple tumors. In previous reports published in 2016 and before a different method was used: 1st invasive tumor ever of a person. This method only includes people for their first tumor ever. Unless otherwise specified, prevalence calculations include the first invasive tumor per cancer site for the total prevalence duration. In this method, the first invasive tumor per cancer site diagnosed during the total prevalence duration can contribute to cancer prevalence statistics. For example, if a woman had a melanoma diagnosed in 1992, a breast cancer diagnosed in 2000 and a second breast cancer diagnosed in 2005, her melanoma will contribute to the prevalence of melanoma and to the prevalence of all sites, and the first breast cancer will contribute to the prevalence of breast cancer. However, if we are calculating 16-years prevalence including individual's first cancer per site between 2000-2015 the melanoma diagnosed in 1992 would not contribute to 16-year melanoma prevalence and the 2000 breast cancer will contribute to the all sites and breast prevalence. Because prevalence counts people and not tumors, the women is included once in the breast cancer prevalence for her first breast cancer. In the 1st invasive tumor ever the woman's melanoma cancer would contribute to the prevalence of melanoma and to the prevalence of all sites, but the breast cancer would not contribute to the prevalence of breast cancer. For more information on tumor selection criteria refer to http://surveillance.cancer.gov/prevalence/methods.html.

Complete prevalence is an estimate of the number of persons (or the proportion of population) alive on a specified date who had been diagnosed with the given cancer, no matter how long

ago that diagnosis was. It was estimated for all races, whites, and blacks by applying the *completeness index method* (Capocaccia & De Angelis, 1997; Merrill et al., 2000; Mariotto et al., 2002) to limited-duration prevalence. The completeness index method is implemented in the COMPREV software, which can be found at https://surveillance.cancer.gov/comprev/. Validation of the completeness index for all races and for whites was made by using data from the Connecticut Tumor Registry (CTR) beginning with 1940. For blacks, SEER 9 data beginning with 1975 were used; identification of blacks is not possible in the CTR data prior to 1970. To validate the completeness index for blacks, we have compared the performance of the method to obtain 24-year prevalence from 10-year limited-duration prevalence. For all races combined and for whites, in cases where the validation indicated some lack of fit of the model, an approximation to the completeness index was derived from the CTR data. If there was a lack of fit for blacks, no estimate of complete prevalence was reported. Complete prevalence for Asian/Pacific Islanders and Hispanics is not available at this time. Complete prevalence by age for all races combined was validated by comparing estimated 10-year complete prevalence with observed prevalence from the CTR data. Prevalence by age is reported for the sites that validated well.

The US cancer prevalence counts at 1/1/2017 *were estimated* by multiplying the SEER age- and race-specific prevalence proportions by the corresponding US population estimates based on the average of 2016 and 2017 population estimates from the US Census Bureau. US cancer prevalence counts for all races were estimated by summing the US estimated counts for whites/unknown, blacks, and other races. For Hispanics, the estimates for Hispanics of white or unknown race and for Hispanics of other races were summed.
Complete prevalence estimates of the number of individuals in the US diagnosed with cancer as children (ages 0-19), including those surviving for more than 24 years, is calculated using a statistical method that estimates the number of childhood survivors diagnosed before 1992 (Simonetti et al., 2008; Mariotto et al., 2009). Limited-duration prevalence proportions by age at prevalence are not shown for childhood cancers (age at diagnosis 0-19) since many of these estimates are not informative. For example, the number of people diagnosed with childhood cancers in the last 25 years and who are currently age 50-59 is zero by definition. For more details on available prevalence estimates, see https://surveillance.cancer.gov/prevalence/.

PROBABILITY OF BEING DIAGNOSED WITH OR DYING FROM CANCER

LIFETIME AND INTERVAL RISKS OF BEING DIAGNOSED WITH CANCER: The probability of being diagnosed with cancer is computed by applying cross-sectional age-specific 2015-2017 incidence rates from the SEER 21 areas and death rates from those same areas to a hypothetical cohort of 10,000,000 live births. This cohort is considered to be at risk for two mutually exclusive events: (1) developing the specified cancer, and (2) dying of other causes without developing the specified cancer. Using these two types of events, a standard **multiple decrement life table** (with 20 age groups from 0-4 to 90-94 and 95+) is derived. For each age interval, the number alive and free of the specified cancer at the beginning of the interval is

decremented by the number who develop the specified cancer and the number who die of other causes. The lifetime risk of being diagnosed with the specified cancer is derived by summing all cancer cases from age 0-4 through age 95+ and dividing by 10,000,000. This calculation does not assume that an individual lives to any particular age; rather, it is the sum over all age intervals of the probability of living to the beginning of that interval without developing the given cancer times the probability of developing the cancer in that interval. The probability of developing cancer during any time period (e.g., between age 50 and age 60) is calculated by adding up all the cancers in the life table over the specified age range and dividing by the number of individuals alive and free of the specified cancer at the beginning of the period. The methodology is described in detail in (Fay et al., 2003) and (Fay, 2004). To improve the precision of the calculations, rates were calculated beyond the usual last open ended age interval (i.e. 85+) for the age groups 85-89, 90-94, and 95+.

LIFETIME RISK OF DYING FROM CANCER: The lifetime risk of dying from a specified cancer is derived using a standard multiple decrement life table (Elandt-Johnson & Johnson, 1980). For each age, the risks of dying of the specified cancer and of all other causes are calculated, based on mortality data from the entire United States.

DETAILED METHODOLOGY AND SOFTWARE: The estimates of developing and dying from cancer are implemented in DevCan (Probablity of DEVeloping or dying from CANcer software). More details on the software, various databases, and the methodology can be found at https://surveillance.cancer.gov/devcan/.

US CANCER DEATH RATES BY STATE

Each cancer-site-specific section presents the death rate for the given cancer for each state and the District of Columbia, specifying the five highest and the five lowest death rates by state for the most recent 5-year period for all persons, males only, and females only. The rates are per 100,000 persons; they are age-adjusted to the 2000 US standard population. (In some previous editions of the CSR, the 1970 US standard million population was used; *death rates standardized to the 2000 US standard million population cannot be compared to death rates standardized to the 1970 US standard million population.*)

The **percent difference (PD)** between a state rate and the rate for the total US is given by the formula:

$$PD = [(\text{State Rate} - \text{Total US Rate})/\text{Total US Rate}] * 100$$

The **standard error** for each age-adjusted state death rate is calculated, based on the assumptions that (1) for each age-specific rate, the number of deaths is a Poisson random variable (Keyfitz, 1966) and (2) the variance of the age-adjusted rate is a linear combination of the variances of the age-specific rates (Snedecor & Cochran, 1980; pp. 188-9).

The **standard error of the difference (*SE_d*)** between a state rate and the total US rate is given by the formula

$$SE_d = \text{Square Root of } [SE_S^2 + SE_U^2 - 2 * Cov_{S,U}]$$

where SE_S and SE_U are the standard errors of a state rate and of the total US rate, respectively, and $Cov_{S,U}$ is the covariance between the two rates. The variance of each rate (i.e., the square of the standard error) and the covariance between the two rates are based on the Poisson assumption. The standard error does not represent the total error that may be present in the age-adjusted rate; it is merely the square root of the variance associated with the rates. In addition to this variance, there also exist potential biases and errors in the measurement of the rate that are difficult to assess accurately and probably impact differently on the error calculations for different states.

The difference between each age-adjusted state rate and the age-adjusted US rate is tested for statistical significance (see below) by calculating a ***Z*** (standard normal) statistic from the formula:

$$Z = (\text{State rate} - \text{Total US rate}) / SE_d$$

Although the rates being compared are not independent because each state is part of the US, the statistical test may not be substantially affected if the state represents a small proportion of the total US. There is also an adjustment for multiple comparisons; see below under *Statistical Significance*.

The states are ranked according to the death rate, with 1 indicating the highest and 51 the lowest rate in the US. 95% confidence intervals for the rank are shown in parentheses () after the rank. The confidence intervals of ranks of age-adjusted rates are calculated using a simulation-based method (Zhang, 2014) implemented in the CI*Rank tool https://surveillance.cancer.gov/cirank/.

JOINPOINT REGRESSION ANALYSIS OF CANCER TRENDS

Joinpoint regression is a useful way to characterize trends in cancer rates and other heath indices (Kim et al., 2000). It characterizes segments using connected linear segments on a log scale (i.e. constant annual percent changes (APC's) between changepoints. The locations of the changepoints are optimally determined using by the data using a statistical algorithm. To achieve greater descriptive accuracy, a statistical algorithm finds the optimal number and location of places where a trend changes. The point (in time) when a trend changes is called a **joinpoint**. Trends may change in different ways at a joinpoint: from up to down, from down to up, from up to up at a different rate, or from down to down at a different rate. A **joinpoint regression model** describes the trends by a continuous, piecewise-exponential function.

Adjacent segments are connected at a joinpoint. The segments are connected because we assume that rates generally change smoothly, rather than "jump" abruptly. In each segment, the rates are assumed to grow or decay exponentially ($y = e^{mx+b}$), i.e., to change by a constant percentage each year. Thus the "slope" *m* in each segment can be associated with a fixed annual percent change (**APC**) by $APC = 100(e^m - 1)$.

Joinpoint analysis first assumes no joinpoints are needed to describe the data accurately, i.e., the trend over the entire interval 1975-2014 does not change. Joinpoints are added in turn if they are statistically significant. Thus, in the final model, each joinpoint represents a significant change in trend. Smoother polynomial models may provide a good fit overall, but are less sensitive to what is occurring at the ends of the data.

In running the Joinpoint program, we set the program parameters as follows:

(1) Joinpoints occur only at exact years; the joinpoint is not necessarily the same as the data point for that year;
(2) The minimum time interval between consecutive joinpoints is three years;
(3) The first joinpoint is not earlier than two years after the first year of data;
(4) The last joinpoint is not later than two years before the last year of data;
(5) The maximum number of joinpoints is five for 1975-2013 (SEER 9) data and three for 1992-2014 (SEER 13) data.

These restrictions provide some added stability to the resultant models. Different values for these parameters may yield a different joinpoint model. Since the test statistic to determine if additional joinpoints are necessary cannot be compared against any known standard distribution to determine significance (e.g., the normal, t, or f), a permutation test is used which simulates the distribution of the test statistic under the null hypothesis. Thus an element of randomness is introduced by the random number stream used. However, for greater consistency in the p-values obtained if one were to change the random seed for each run, we run the program for 4499 permutations.

A Windows-based program, *Joinpoint*, is freely available at https://surveillance.cancer.gov/joinpoint/; it accepts data from the *SEER*Stat* program, as well as user-defined data. Further details on joinpoint regression may be found at the website. Starting with the 2012 edition of CSR, we have generated all our cancer trend statistics using a Linux-based *Joinpoint* program as opposed to the downloadable Windows-based program. As a result of using a different platform, in rare instances the results (e.g., # of joinpoints) may differ.

AVERAGE ANNUAL PERCENT CHANGE (AAPC) is a summary measure of a trend over a pre-specified fixed interval based on an underlying joinpoint model. It allows us to use a single number to describe the average trend over a period of multiple years. It can be estimated even if the joinpoint model indicates that there were changes in trends during those years, since it is estimated as a geometric weighted average of the joinpoint APCs, with the weights equal to the

lengths of each segment over the pre-specified fixed interval. In this report, we have included AAPCs as an addendum to the underlying joinpoint trends, and as a summary measure to compare fixed interval trends by race/ethnicity. For more information on how the AAPC is calculated and the advantages of reporting an AAPC over APCs, see https://surveillance.cancer.gov/help/joinpoint/setting-parameters/method-and-parameters-tab/apc-aapc-tau-confidence-intervals/average-annual-percent-change-aapc.

JUMP MODEL/COMPARABILITY RATIO MODEL

The Jump Model / Comparability Ratio Model in the Joinpoint software provides a direct estimation of trend data (e.g. cancer rates) where there is a coding, which causes a "jump" in the rates, but is assumed not to affect the underlying trend. To account for ICD-9 to ICD-10 coding change, occurred in 1998, alternative trends estimated from Jump model and Comparability Ratio Model are obtained for Melanoma. Those trends and more information can be found in https://surveillance.cancer.gov/joinpoint/jump.html .

REPORTING DELAY

Timely and accurate calculation of cancer incidence rates is hampered by **reporting delay**, the time lapse before a diagnosed cancer case is reported to the NCI or the delay in receiving updated information for an existing case. Currently, NCI allows a standard delay of 22 months between the end of the diagnosis year and the time the cancers are reported to the NCI in November, almost two years later. The data are released to the public in the spring of the following year. For example, cases diagnosed in 2014 were first reported to the NCI in November 2016 and released to the public in April 2017. However, in each subsequent release of the SEER data, *records from all prior diagnosis years* (e.g., diagnosis years 2014 and earlier in the 2016 submission to the NCI) *are updated* as either new cases are found or new information is received about previously submitted cases.

The submissions for the most recent diagnosis year are, in general, about two percent below the total number of cancers that will eventually be submitted for that year, although this varies by cancer site and other factors. To adjust for this, statistical models have been developed to estimate "reporting delay-adjusted rates" for the SEER 9 since 2003 and SEER 13 registries since 2010 and the delay adjusted rates are reported.

The idea behind modeling reporting delay is *to adjust the recent rates to anticipate future corrections (additions, changes, and deletions) to the data*. These adjusted rates and the associated delay model are valuable in more precisely determining current cancer trends, as well as in monitoring the timeliness of data collection—an important aspect of quality control (Clegg et al., 2002).

In addition to registries funded by NCI-SEER, registries for the remainder of the U.S. are funded by the Centers for Disease Control and Prevention National Program of Cancer Registries (CDC-NPCR). (Some registries are co-funded by both NCI and CDC). Annual cancer incidence

and survival data are reported by U.S. registries to NCI-SEER and CDC-NPCR, while registries throughout the US and Canada are report annually to the North American Association of Central Cancer Registries (NAACCR), a registry member organization. A coordinated effort by NCI, CDC and NAACCR has led to a unified approach to estimate and report delay adjusted rates.

Starting with data released in 2015, for the first time, delay adjustment factors is produced based on December 2014 data submitted to the NAACCR. The delay adjusted rates are then estimated from the delay adjustment factors by cancer site, registry, age group, gender, race, and year of diagnosis and linked to the appropriate cases (based on cancer site, registry, age group, gender, race, and year of diagnosis), to data submissions for each of the three partners in this joint effort (NCI-SEER, NAACCR, and CDC-NPCR). Starting from 2017 release, delay adjustment factors for Ethnicity (Hispanic and Non-Hispanic) and Race x Ethnicity combination are also estimated. This will allow all the partners and users of these data to produce delay adjusted rates. See Appendix for details.

In this report, we show SEER age-adjusted incidence rates and trends, along with their calculated delay adjustments for SEER 9 and SEER 13 areas. The adjusted rates, factors, and trends are available for all cancers combined (malignant only except for urinary bladder), for female breast in situ, for urinary bladder (in situ and malignant combined), and for 22 malignant cancer sites: melanoma (for all races combined and whites only), lung/bronchus, colon/rectum, prostate, female breast, liver and intrahepatic bile duct, pancreas, cervix uteri, corpus and uterus, ovary, testis, kidney and renal pelvis, brain and other nervous system, Hodgkin lymphoma, non-Hodgkin lymphoma, all leukemia, esophagus, larynx, myeloma, oral cavity and pharynx, thyroid, and stomach.

For more information on cancer incidence rates adjusted for reporting delay, see https://surveillance.cancer.gov/delay/.

STATISTICAL SIGNIFICANCE

Errors may be made in the estimation of a given statistic. In order to test whether two groups (such as the populations of a state and the entire US) have the same or different *actual* rates, the *observed* rates for the groups are compared. Statisticians consider that a difference in observed rates can be explained by one of two hypotheses: (H_0) The actual rates are really the same, but the observed rates are different because of some combination of error-causing factors, or (H_1) the actual rates of the groups are really different. H_0 is called the **null hypothesis** (because it says there is *no* real difference); H_1 is called the **alternate hypothesis**. Typically, H_0 is rejected only if there is strong evidence in favor of H_1. (Thus, if the observed rates are equal, we cannot reject H_0.)

Using statistical theory, one can determine the distribution of the rate difference under the assumption that H_0 is true. Then values of the rate difference that are very unlikely to occur if H_0 is true are identified. More specifically, a small positive number, called **alpha** (α), is chosen;

usually, α is 0.05 or 0.01. (Alpha is called the **significance level** of the hypothesis test.) One can then identify limits for the difference in rates such that, if H_0 is true, the probability of the difference being outside of those limits is α. If the observed difference is *outside* of these limits, then the observed result is *very unlikely* to happen if H_0 is true, so H_0 is rejected.

Another way of looking at the same process is to calculate, assuming H_0 is true, the probability that the observed difference or any greater difference would occur; this number is called the ***P*-value** of the observed result. If the *P*-value of a comparison is less than α (that is, the observed difference is *very unlikely* to happen if the null hypothesis is true), H_0 will be rejected. If the *P*-value of a test is greater than the significance level α, H_0 will not be rejected. When a difference in rates is sufficiently large to cause the null hypothesis to be rejected for a given value of α (usually 0.05), it is called a **statistically significant** difference.

When a null hypothesis is rejected, there remains a small chance that a wrong decision has been made. If many statistical comparisons are done, even with α = 0.01, the chance of making at least one wrong decision becomes a concern. In testing the differences between the total US rate and the rate for each state (or for the District of Columbia) for a given cancer, 51 statistical comparisons of the type described above are performed. Based on one of Bonferroni's inequalities (if there are n events and p_i is the probability of success in event i, then $P(\text{at least 1 success}) < p_1 + ... + p_n$) (Snedecor & Cochran,1980; p. 115-117), the significance level α for each individual comparison was set equal to $0.01/51 \approx 0.0002$. Thus, only individual-state-to-total-US comparisons with an associated *P*-value less than 0.0002 are considered to be statistically significant. That is, a *very small* significance level α (0.0002) is used in order to minimize the total risk (0.01) of falsely deciding that some pair of equal rates are unequal.

Use caution in assessing statistically significant differences. Population size has an important role in any calculation of statistical significance. Some states may have estimated rates that are very close to the estimated total US rate, but because of their large population, the difference between their estimated rate and the estimated total US rate is found to be statistically significant. In this case, the true state rate and the true US rate are almost certainly different, because the observed difference, though small, is nearly impossible if the null hypothesis (equal rates) is true. A small difference in rates, however, may have no practical importance. On the other hand, some smaller states may have estimated rates that differ substantially from the estimated total US rate, but because of their relatively small population, the differences are found to be statistically nonsignificant. When this happens, if the true state rate and the true US rate were equal, the probability of obtaining a difference at least as large as what has been observed is greater than $\alpha \approx 0.0002$. Therefore, *because the evidence against it isn't strong enough, the null hypothesis (equal rates) is not rejected.*

If the percent difference (PD) between the two rates is small, there may be some question about the importance of the difference. It is difficult to specify a minimally significant absolute PD, below which the difference would always be unimportant, because the observed PD will depend on the populations of the areas involved. It may be of value to consider the size of the PD

between a state rate and the US rate in assessing the importance of a statistically significant difference.

Comparing individual state rates with the US rate and assessing statistical significance is not an appropriate procedure for assessing geographic clustering of state rates. Identification of states which may represent regional clusters of high or low rates would require additional statistical and graphical analyses.

For a number of cancers, the District of Columbia has the highest death rates. *Use caution when comparing cancer rates for the District with those from the 50 states.* The District is an entirely urban area, whereas a state includes urban, suburban, and rural areas. Mortality rates for many cancers are higher in urban areas. Also, the District has a higher percentage of blacks —51% of the total population in 2010 (US Census Bureau, 2013)—than any state. In addition, their higher mortality rates for several types of cancer elevate the overall rate for the District.

STANDARD ERRORS OF RATES

SURVIVAL RATES: In the tables presenting survival estimates, the magnitude of the standard error is given as a measure of the reliability of a given rate: the greater the standard error, the more uncertainty associated with the estimated rate. In addition, if there were fewer than 25 diagnoses in the first interval of the life table constructed to calculate survival, or if all cases became lost to follow-up within an interval, a valid survival estimate could not be calculated, as is noted in the table footnotes.

The **standard error** (**SE**) of a relative survival estimate is obtained as follows (Ederer et al., 1961):

$$SE(CR_t) = CR_t * \text{square root of } [q_1/(e_1-d_1) + q_2/(e_2-d_2) + \ldots + q_t/(e_t-d_t)]$$

where CR_t is the t-year relative survival estimate, and for $i = 1, \ldots, t$,
q_i is the probability of dying in year i after diagnosis,
e_i is the effective number of patients at risk in year i after diagnosis, and
d_i is the number of deaths in year i after diagnosis.

INCIDENCE AND MORTALITY RATES: The standard errors of age-adjusted incidence and mortality rates are often not specified. However, the reader can approximate the SE of a particular incidence or mortality rate by the SE of a crude incidence or mortality rate (Keyfitz, 1966), that is, the SE can be approximated by the rate divided by the square root of the number of cancer cases (or the number of deaths).

Appendix tables provide numbers of cancer diagnoses within SEER areas and numbers of deaths in the entire US, respectively, by race and sex for the most recent 5-year period. These can be used to obtain approximations of the standard errors for associated age-adjusted rates for the same time period using the above formula. To approximate the standard error of a rate for a single year, use the formula but replace the number of cancer cases or deaths with the number of cancer cases or deaths divided by 5.

DEFINITIONS

Several technical terms are used in presenting the data in this report. Their definitions are presented here to clarify them for the reader.

INCIDENCE RATE: The cancer incidence rate is the number of new cancers of a specific site/type occurring in a specified population during a year, usually expressed as the number of cancers per 100,000 persons at risk. That is,

Incidence rate = (New cancers / Population) * 100,000.

The *numerator* of the incidence rate is the number of new cancers; the *denominator* of the

incidence rate is the size of the population. The number of new cancers may include multiple primary cancers occurring in one patient. The primary site reported is the site of origin and not the metastatic site. In general, the incidence rate would not include recurrences. *The population used depends on the rate to be calculated.* For cancer sites that occur in only one sex, the sex-specific population (e.g., females for cervical cancer) is used.

The incidence rate can be computed for a given type of cancer or for all cancers combined. Except for 5-year age-specific rates, all incidence rates in this report are *age-adjusted* (see below) to the 2000 US standard population (or, where appropriate, to the world standard million population). (In some previous editions of the *CSR*, the 1970 US standard million population was used; therefore, *incidence rates in this edition cannot be compared to rates published in those editions.*) Incidence rates are for *invasive cancer only*, unless otherwise specified. (Exceptions are the incidence rate for cancer of the urinary bladder (where both in situ and invasive cancers are counted) and breast cancer in situ, which is shown separately.)

DEATH RATE: The cancer death (or mortality) rate is the number of deaths with cancer given as the underlying cause of death occurring in a specified population during a year, usually expressed as the number of deaths due to cancer per 100,000 persons. That is,

Death Rate = (Cancer Deaths / Population) $*$ 100,000.

The *numerator* of the death rate is the number of deaths; the *denominator* of the death rate is the size of the population. As with the incidence rate, *the population used depends on the rate to be calculated.* The death rate can be computed for a given cancer site or for all cancers combined. Except for 5-year age-specific rates, all death rates in this report are *age-adjusted* (see below) to the 2000 US standard population (or, where appropriate, to the world standard million population). (In some previous editions of the *CSR*, the 1970 US standard million population was used; therefore, *death rates in this edition cannot be compared to rates published in those editions.*)

AGE DISTRIBUTION: A table showing a partition of the entire lifespan into disjoint age intervals, along with the proportion of the population in each interval.

MEDIAN AGE: The age at which half of a population is younger and half is older.

STANDARD POPULATION: A **standard population** for a geographic area, such as the US or the world, is a table giving the proportions of the population falling into the age groups 0, 1-4, 5-9, ..., 80-84, and 85+. A **standard million population** for a geographic area is a table giving the number of persons in each age group 0, 1-4, ... , 85+ out of a theoretical cohort of 1,000,000 persons that is distributed by age in the same proportions as the standard population. Table A-7 shows the US 2000 standard population and the world standard million population. (Some World Health Organization mortality publications use a different world standard million population.)

AGE-ADJUSTED RATE: An age-adjusted incidence or mortality rate is a weighted average of the age-specific incidence or mortality rates, where the weights are the counts of persons in the corresponding age groups of a standard population. The potential confounding effect of age is reduced when comparing age-adjusted rates based on the same standard population. For this report, the 2000 US standard population (or, where appropriate, the world standard million population) is used in computing age-adjusted rates, unless otherwise noted.

PERCENT CHANGE: The percent change (**PC**) in a statistic over a given time interval is

Percent change = (Final value – Initial value) / Initial value * 100.

A positive PC corresponds to an increasing trend, a negative PC to a decreasing trend.

ANNUAL PERCENT CHANGE: The annual percent change (**APC**) is calculated by first fitting a regression line to the natural logarithms of the rates (*r*) using calendar year (*x*) as a regressor variable. In this report the method of *weighted least squares* is used to calculate the regression equation. If **ln(r) = mx + b** is the resulting regression equation (with slope *m*), then **APC = 100 * (e^m – 1)**. A positive APC corresponds to an increasing trend, a negative APC to a decreasing trend.

Because the methods used in their calculation are mathematically different, *the signs of the PC and the APC for a given statistic and time interval may differ*, as occurs in a few of the tables presented. That is, one of these statistics may show an increasing trend, the other a decreasing trend.

Testing the hypothesis that the actual mean annual percent change is 0 is equivalent to testing the hypothesis that the theoretical slope estimated by the slope *m* of the line representing the equation **ln(r) = mx + b** is 0. The latter hypothesis is tested using the *t* distribution of m / SE_m with $n - 2$ degrees of freedom. The standard error of *m*, called SE_m, is obtained from the fit of the regression (Kleinbaum et al., 1988). (This calculation assumes that the rates increased or decreased at a constant rate over the entire calendar year interval; the validity of this assumption was not assessed.) In those few instances where at least one of the rates was 0, the linear regression was not calculated.

AVERAGE ANNUAL PERCENT CHANGE: The average annual percent change (**AAPC**) is a summary measure of a trend over a pre-specified fixed interval based on an underlying joinpoint model. It allows us to use a single number to describe the average trend over a period of multiple years. It can be estimated even if the joinpoint model indicates that there were changes in trends during those years, since it is estimated as a weighted average of the joinpoint APCs, with the weights equal to the lengths of each subinterval over the pre-specified fixed interval.

LIFE TABLE: A table for a given population listing, for each sex and each age from 0 to 120, how many members die at that age and how many survive one more year.

OBSERVED SURVIVAL: The observed survival estimate represents the proportion of cancer patients surviving for a specified time interval after diagnosis. Note that some of those not surviving died of the given cancer and some died of other causes.

RELATIVE SURVIVAL: The relative survival estimate is calculated using a procedure (Ederer et al., 1961; Ederer and Heise, 1959) whereby the observed survival estimate is adjusted for expected mortality. The relative survival estimate approximates the likelihood that a patient will not die from causes associated specifically with the given cancer before some specified time after diagnosis. It is always larger than the observed survival estimate for the same group of patients.

STANDARD ERROR: The standard error of a rate is a measure of the sampling variability of the rate.

PERSON-YEARS OF LIFE LOST: The person-years of life lost (**PYLL**) is calculated as follows: For each individual who dies of the cancer of interest, the number of years of expected additional life for an average person of that age, race, and sex is obtained from life tables for the US population (available from the NCHS). The PYLL in the general population associated with a particular cancer for a given year is simply the sum of this expectation over all those individuals who died of that cancer in that year.

AVERAGE YEARS OF LIFE LOST: The average years of life lost (**AYLL**) associated with a particular cancer for a given year is the PYLL associated with that cancer in the general population divided by the number of deaths from that cancer in the general population in that year.

PREVALENCE: Prevalence is defined as the number or percent of people alive on a certain date in a population who previously had a diagnosis of the disease. It includes new (incident) and pre-existing cases and is a function of past incidence, past survival, and the size and age structure of the population**.** *Limited-duration prevalence* represents the proportion of people alive on a certain day who had a diagnosis of the disease within the past *x* years (e.g. *x* = 5, 10, or 20 years). *Complete prevalence* is an estimate of the number of persons (or the proportion of the population) alive on a specified date who had been diagnosed with the given disease, no matter how long ago that diagnosis was. For more details on cancer prevalence definitions and methods, refer to https://surveillance.cancer.gov/prevalence/.

STAGE OF DISEASE AT DIAGNOSIS: Extent-of-disease information determines stage of disease at diagnosis. The **SEER summary stage** presented has four levels. An invasive neoplasm confined entirely to the organ of origin is said to be **localized**. A neoplasm that has extended beyond the limits of the organ of origin, either directly into surrounding organs or tissues or into regional lymph nodes, is said to be **regional**. A neoplasm that has spread to parts of the body remote from the primary tumor, either by direct extension or by discontinuous metastasis, is said to be **distant**. When information is not sufficient to assign a stage, a neoplasm is said to be **unstaged**. In situ tumors (except those of the cervix uteri) are also collected by SEER but generally are not published in this series. For some cancers and diagnosis years, the extent of

disease information can also be converted to Stages 0-IV as defined by the American Joint Committee on Cancer (Greene et al, 2002; Edge et al., 2010).

SOFTWARE USED TO GENERATE THE SEER CANCER STATISTICS REVIEW

The SEER Cancer Statistics Review includes statistics generated by a variety of statistical software including:

- SEER*Stat, statistical software for the analysis of SEER and other cancer databases, was used to generate incidence, mortality, prevalence, and survival statistics presented in the CSR.
- Analysis generated by the Joinpoint Regression Program are presented to better describe trends that are not constant over time.
- The DevCan system generated the probability of developing cancer from twelve SEER areas and the probability of dying from cancer from the total United States.
- The ComPrev software was used to calculate complete prevalence estimates.

Additional statistics can be obtained via SEER's Cancer Query Systems. These data retrieval applications provide access to pre-calculated cancer statistics stored in online databases.

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Table 1.1

Estimated New Cancer Cases and Deaths for 2020
All Races, By Sex

Primary Site	Estimated New Cases			Estimated Deaths		
	Total	Males	Females	Total	Males	Females
All Sites	1,806,590	893,660	912,930	606,520	321,160	285,360
Oral Cavity and Pharynx	53,260	38,380	14,880	10,750	7,760	2,990
Tongue	17,660	12,960	4,700	2,830	1,980	850
Mouth	14,320	8,430	5,890	2,660	1,690	970
Pharynx	17,950	14,630	3,320	3,640	2,820	820
Other Oral Cavity	3,330	2,360	970	1,620	1,270	350
Digestive System	333,680	187,620	146,060	167,790	97,560	70,230
Esophagus	18,440	14,350	4,090	16,170	13,100	3,070
Stomach	27,600	16,980	10,620	11,010	6,650	4,360
Small Intestine	11,110	6,000	5,110	1,700	940	760
Colon[a]	104,610	52,340	52,270	53,200	28,630	24,570
Rectum	43,340	25,960	17,380			
Anus, Anal Canal, and Anorectum	8,590	2,690	5,900	1,350	540	810
Liver and Intrahepatic Bile Duct	42,810	30,170	12,640	30,160	20,020	10,140
Gallbladder and Other Biliary	11,980	5,600	6,380	4,090	1,700	2,390
Pancreas	57,600	30,400	27,200	47,050	24,640	22,410
Other Digestive	7,600	3,130	4,470	3,060	1,340	1,720
Respiratory System	247,270	130,340	116,930	140,730	76,370	64,360
Larynx	12,370	9,820	2,550	3,750	3,000	750
Lung and Bronchus	228,820	116,300	112,520	135,720	72,500	63,220
Other Respiratory	6,080	4,220	1,860	1,260	870	390
Bones and Joints	3,600	2,120	1,480	1,720	1,000	720
Soft Tissue	13,130	7,470	5,660	5,350	2,870	2,480
Skin (excl. basal & squamous)	108,420	65,350	43,070	11,480	8,030	3,450
Melanoma of the Skin[b]	100,350	60,190	40,160	6,850	4,610	2,240
Other non-epithelial skin	8,070	5,160	2,910	4,630	3,420	1,210
Breast[b]	279,100	2,620	276,480	42,690	520	42,170
Genital Organs	317,260	203,740	113,520	67,830	34,210	33,620
Cervix (uterus)	13,800		13,800	4,290		4,290
Endometrium (uterus)	65,620		65,620	12,590		12,590
Ovary	21,750		21,750	13,940		13,940
Vulva	6,120		6,120	1,350		1,350
Vagina and other genital organs, female	6,230		6,230	1,450		1,450
Prostate	191,930	191,930		33,330	33,330	
Testis	9,610	9,610		440	440	
Penis and other genital organs, male	2,200	2,200		440	440	
Urinary System	159,120	110,230	48,890	33,820	23,540	10,280
Urinary Bladder	81,400	62,100	19,300	17,980	13,050	4,930
Kidney and Renal Pelvis	73,750	45,520	28,230	14,830	9,860	4,970
Ureter and other urinary organs	3,970	2,610	1,360	1,010	630	380
Eye and Orbit	3,400	1,890	1,510	390	210	180
Brain and Other Nervous System	23,890	13,590	10,300	18,020	10,190	7,830
Endocrine System	55,670	14,160	41,510	3,260	1,600	1,660
Thyroid	52,890	12,720	40,170	2,180	1,040	1,140
Other Endocrine	2,780	1,440	1,340	1,080	560	520
Lymphoma	85,720	47,070	38,650	20,910	12,030	8,880
Hodgkin Lymphoma	8,480	4,690	3,790	970	570	400
Non-Hodgkin Lymphoma	77,240	42,380	34,860	19,940	11,460	8,480
Myeloma	32,270	17,530	14,740	12,830	7,190	5,640
Leukemia	60,530	35,470	25,060	23,100	13,420	9,680
Acute lymphocytic leukemia	6,150	3,470	2,680	1,520	860	660
Chronic lymphocytic leukemia	21,040	12,930	8,110	4,060	2,330	1,730
Acute myeloid leukemia	19,940	11,090	8,850	11,180	6,470	4,710
Chronic myeloid leukemia	8,450	4,970	3,480	1,130	670	460
Other leukemia	4,950	3,010	1,940	5,210	3,090	2,120
All Other Sites[c]	30,270	16,080	14,190	45,850	24,660	21,190

Cancer Facts & Figures – 2020, American Cancer Society (ACS), Atlanta, Georgia, 2020.
Excludes basal and squamous cell skin and *in situ* carcinomas except urinary bladder.

Estimated new cases are based on 2001-2015 incidence rates reported by the North American Association of Central Cancer Registries (NAACCR).
Estimated deaths are based on 2002-2016 US mortality data, National Center for Health Statistics, Centers for Disease Control and Prevention.

[a] Estimated deaths for colon & rectum cancers are combined.

[b] Carcinoma *in situ* of the breast accounts for about 48,530 new cases annually, and melanoma *in situ* accounts for about 95,710 new cases annually.

[c] More deaths than cases suggests lack of specificity in recording underlying causes of death on death certificate.

Table 1.2

68-Year Trends in U.S. Cancer Death Rates[a]

All Races, Males and Females

All Primary Cancer Sites Combined

Age Group	1950	1983	2017	Annual Percent Change 1950-1983	Annual Percent Change 1983-2017	Total Percent Change 1950-2017
Ages 0-4	11.1	4.5	1.9	-3.2*	-2.2*	-82.7
Ages 5-14	6.7	3.9	2.1	-1.7*	-1.7*	-68.7
Ages 15-24	8.6	5.5	3.2	-1.3*	-1.5*	-63.3
Ages 25-34	20.4	13.2	8.2	-1.5*	-1.6*	-60.0
Ages 35-44	63.6	47.5	27.1	-0.8*	-1.9*	-57.4
Ages 45-54	174.2	169.0	90.5	0.0	-1.8*	-48.0
Ages 55-64	391.3	439.2	270.2	0.4*	-1.7*	-30.9
Ages 65-74	710.0	842.5	577.7	0.5*	-1.2*	-18.6
Ages 75-84	1,167.2	1,254.8	1,059.0	0.2*	-0.6*	-9.3
Ages 85+	1,450.7	1,613.7	1,599.9	0.4*	-0.1	10.3
All Ages	195.4	209.2	152.6	0.2*	-1.0*	-21.9

Lung and Bronchus Cancer[b]

Age Group	1950	1983	2017	Annual Percent Change 1950-1983	Annual Percent Change 1983-2017	Total Percent Change 1950-2017
Ages 0-4	-	-	-	-	-	-
Ages 5-14	-	-	-	-	-	-
Ages 15-24	0.2	0.1	0.0	-2.8*	-0.3	-74.7
Ages 25-34	0.8	0.6	0.3	-0.7*	-2.7*	-68.2
Ages 35-44	4.6	9.0	2.1	2.1*	-3.4*	-53.8
Ages 45-54	20.2	51.1	15.9	3.0*	-3.0*	-21.4
Ages 55-64	48.9	144.8	69.5	3.1*	-2.5*	42.2
Ages 65-74	59.4	252.7	164.3	4.0*	-1.3*	176.5
Ages 75-84	55.4	267.2	284.4	4.7*	0.1	413.5
Ages 85+	42.3	187.0	296.1	5.0*	1.2*	600.1
All Ages	14.9	52.7	36.8	3.7*	-1.1*	146.2

Source: US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.

[a] Rates are per 100,000 and age-adjusted to the 2000 US Std Population (18 age groups - Census P25-1130).

[b] Due to coding changes throughout the years, Lung and Bronchus includes trachea and pleura.

* The APC is significantly different from zero (p<.05).

\- Statistic not shown. Rate based on less than 16 cases for the time interval. Trend based on less than 10 cases for at least one year within the time interval.

Table 1.3

Summary of Changes in Cancer Mortality, 1950-2017 and
5-Year Relative Survival (Percent), 1950-2016
Males and Females, By Primary Cancer Site

	Whites			
	U.S. Mortality Percent Change 1950-2017[a]		5-Year Relative Survival (Percent)[b]	
Primary Site	Total	APC	1950-1954	2010-2016
Oral cavity and pharynx	-49.0	-1.2*	46	67.7
Esophagus	20.6	0.7*	4	21.1
Stomach	-89.3	-3.3*	12	29.0
Colon and rectum	-59.3	-1.4*	37	67.5
Colon	-54.7	-1.2*	41	67.2
Rectum	-69.7	-2.1*	40	68.3
Liver and intrahepatic bile duct	66.6	0.9*	1	16.8
Pancreas	29.8	0.1*	1	7.8
Larynx	-47.5	-0.9*	52	65.1
Lung and bronchus	147.4	0.9*	6	18.8
Males	79.4	0.2	5	16.2
Females	439.1	2.1*	9	21.6
Melanoma of the skin	115.3	1.0*	49	93.4
Breast(females)	-40.6	-0.8*	60	92.2
Cervix uteri	-82.1	-3.0*	59	71.4
Corpus and uterus, NOS	-62.3	-1.3*	72	85.7
Ovary	-21.0	-0.4*	30	45.5
Prostate	-39.0	-0.7*	43	99.8
Testis	-70.1	-2.6*	57	97.4
Urinary bladder	-30.4	-0.6*	53	79.9
Kidney and renal pelvis	22.0	0.3*	34	74.8
Brain and nervous system	55.8	0.4*	21	34.2
Thyroid	-42.6	-0.8*	80	98.4
Hodgkin lymphoma	-85.6	-3.3*	30	88.7
Non-Hodgkin lymphoma	58.7	0.5*	33	73.3
Myeloma	194.7	0.9*	6	48.3
Leukemia	-10.7	-0.4*	10	63.9
Childhood (Ages 0-14)	-75.4	-2.6*	20	84.9
All Sites	-21.7	-0.3*	35	70.0

The APC is the Annual Percent Change over the time interval.
Rates used in the calculation of the APC are age-adjusted to the 2000 U.S. standard population (18 age groups - Census P25-1130).

[a] U.S. Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.
Due to coding changes throughout the years: Colon excludes other digestive tract; Rectum includes anal canal; Liver & intrahepatic bile duct includes gallbladder & biliary tract, NOS; Lung & bronchus includes trachea & pleura; Ovary includes fallopian tube; Urinary bladder includes other urinary organs; Kidney & Renal pelvis includes ureter; NHL and myeloma each include a small number of leukemias; NHL includes a small number of ill-defined sites.

[b] Survival estimates for 1950-54 are from NCI Survival Report 5 with the exception of All Sites, Oral cavity & pharynx, Colon & rectum, Non-Hodgkin lymphoma and Childhood cancers which come from historical Connecticut data.
Survival estimates for 2010-2016 are from the SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta).
Rates are based on follow-up of patients into 2017.

* The APC is significantly different from zero ($p<.05$).

Table 1.4
Age-Adjusted SEER Incidence and U.S. Death Rates and 5-Year Relative Survival (Percent)
By Primary Cancer Site, Sex and Time Period

All Races

Site	Incidence[a] (2013-2017) Total	Males	Females	US Mortality[b] (2013-2017) Total	Males	Females	Survival[c] (%) (2010-2016) Total	Males	Females
All Sites	442.4	480.3	418.3	158.3	189.5	135.7	67.4	66.4	68.5
Oral Cavity & Pharynx:	11.4	17.2	6.4	2.5	3.9	1.3	66.2	65.6	67.7
Lip	0.6	1.0	0.3	0.0	0.0	0.0	92.0	91.8	90.5
Tongue	3.5	5.3	1.9	0.7	1.0	0.4	67.1	67.5	66.2
Salivary gland	1.3	1.7	1.0	0.3	0.4	0.1	72.3	65.5	81.7
Floor of mouth	0.5	0.7	0.3	0.0	0.0	0.0	51.1	49.0	55.8
Gum & other oral cavity	1.5	1.9	1.3	0.4	0.5	0.3	59.8	57.0	63.3
Nasopharynx	0.6	0.9	0.3	0.2	0.3	0.1	61.3	59.1	66.6
Tonsil	2.0	3.5	0.7	0.2	0.4	0.1	75.1	75.4	73.1
Oropharynx	0.5	0.8	0.2	0.3	0.4	0.1	49.0	51.1	41.0
Hypopharynx	0.6	1.0	0.2	0.1	0.2	0.0	36.1	36.1	36.2
Other oral cavity & pharynx	0.3	0.5	0.1	0.4	0.7	0.2	47.9	50.4	38.2
Digestive System:	81.0	98.5	66.4	40.9	52.4	31.4	43.6	41.3	46.6
Esophagus	4.3	7.3	1.7	3.9	7.0	1.4	19.9	19.3	22.6
Stomach	7.3	9.9	5.3	3.1	4.1	2.2	32.0	28.9	36.7
Small intestine	2.4	2.8	2.1	0.4	0.5	0.3	68.3	68.1	68.5
Colon & Rectum:	38.2	43.7	33.6	13.9	16.6	11.8	64.6	64.0	65.1
Colon	26.8	29.5	24.6	-	-	-	63.4	63.2	63.6
Rectum	11.4	14.3	9.1	-	-	-	67.1	65.6	69.1
Anus, anal canal & anorectum	1.9	1.6	2.2	0.3	0.2	0.3	68.7	63.7	71.5
Liver & intrahepatic bile duct	9.0	13.8	4.8	6.6	9.6	4.0	19.6	19.3	20.5
Gallbladder	1.2	0.9	1.5	0.6	0.4	0.7	19.2	20.6	18.6
Other biliary	1.9	2.3	1.5	0.4	0.5	0.4	18.7	19.7	17.5
Pancreas	13.1	14.9	11.6	11.0	12.7	9.6	10.0	10.0	10.0
Retroperitoneum	0.4	0.4	0.4	0.1	0.1	0.1	55.2	53.6	56.6
Peritoneum, omentum & mesentery	0.5	0.1	0.8	0.3	0.1	0.4	32.4	36.5	32.2
Other digestive system	0.8	0.9	0.7	0.4	0.4	0.3	7.3	6.2	8.4
Respiratory System:	57.9	67.9	50.3	41.5	51.5	33.8	23.4	21.7	25.5
Nose, nasal cavity & middle ear	0.7	0.9	0.5	0.1	0.2	0.1	58.1	58.3	57.6
Larynx	2.9	5.0	1.1	1.0	1.7	0.4	60.6	61.3	57.6
Lung & bronchus	54.2	61.7	48.6	40.2	49.3	33.2	20.5	17.1	24.2
Pleura[d]	0.0	0.0	0.0	0.1	0.1	0.0	24.3	17.3	34.2
Trachea & other respiratory organs	0.2	0.3	0.1	0.1	0.1	0.1	54.9	54.0	57.4
Bones & joints	1.0	1.1	0.8	0.5	0.6	0.4	66.0	63.8	68.7
Soft tissue (including heart)	3.5	4.2	2.9	1.3	1.5	1.2	64.7	64.4	65.1
Skin (excl. basal & squamous):	24.7	32.2	19.3	3.4	5.3	1.9	92.0	90.3	94.4
Melanoma of the skin	22.7	29.3	17.8	2.4	3.5	1.5	92.7	91.1	94.8
Other non-epithelial skin	2.1	2.9	1.5	1.0	1.7	0.5	83.7	80.9	88.0
Breast	68.9	1.2	128.5	11.3	0.3	20.3	90.0	83.6	90.0
Breast (*in situ*)	17.4	0.1	33.0	-	-	-	100.0	100.0	100.0

Note: Incidence and death rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

[a] SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

[b] US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.

[c] SEER 18 areas. Based on follow-up of patients into 2017. Expected survival rates are derived from life tables by socio-economic status, geography and race developed by the SEER program.

[d] Mesotheliomas of the Pleura are included in the separate group Mesothelioma for incidence but are included in the Pleura grouping for mortality.

\- Statistic could not be calculated due to less than 16 cases in the time interval.

Table 1.4 - continued
Age-Adjusted SEER Incidence and U.S. Death Rates and 5-Year Relative Survival (Percent)
By Primary Cancer Site, Sex and Time Period

All Races

Site	Incidence[a] (2013-2017) Total	Males	Females	US Mortality[b] (2013-2017) Total	Males	Females	Survival[c] (%) (2010-2016) Total	Males	Females
Female Genital System:	27.2	-	51.3	8.2	-	15.1	70.0	-	70.0
Cervix uteri	3.8	-	7.4	1.2	-	2.3	66.1	-	66.1
Corpus uteri	14.3	-	27.0	1.2	-	2.3	82.7	-	82.7
Uterus, NOS	0.5	-	0.9	1.4	-	2.6	28.5	-	28.5
Ovary[d]	6.0	-	11.2	3.8	-	6.9	48.6	-	48.6
Vagina	0.4	-	0.7	0.1	-	0.2	48.5	-	48.5
Vulva	1.4	-	2.6	0.3	-	0.5	70.4	-	70.4
Other female genital system	0.9	-	1.7	0.2	-	0.4	50.8	-	50.8
Male Genital System:	53.7	116.9	-	8.1	19.6	-	97.5	97.5	-
Prostate	50.2	109.8	-	7.8	19.1	-	97.8	97.8	-
Testis	3.0	5.9	-	0.1	0.3	-	95.0	95.0	-
Penis	0.4	0.9	-	0.1	0.2	-	65.4	65.4	-
Other male genital system	0.1	0.3	-	0.0	0.0	-	82.8	82.8	-
Urinary System:	37.2	58.7	20.3	8.3	13.3	4.6	75.5	76.2	73.9
Urinary bladder	20.0	34.9	8.6	4.4	7.5	2.1	76.9	78.3	72.4
Kidney & renal pelvis	16.3	22.4	11.1	3.7	5.4	2.3	75.2	74.5	76.3
Ureter	0.5	0.8	0.4	0.1	0.2	0.1	47.4	48.9	45.3
Other urinary system	0.4	0.7	0.2	0.1	0.2	0.1	48.2	51.5	41.7
Eye & Orbit	0.9	1.0	0.8	0.1	0.1	0.1	83.2	83.6	82.6
Brain & Nervous System:[e]	6.4	7.5	5.4	4.4	5.4	3.6	32.6	31.3	34.2
Brain	6.0	7.1	5.0	-	-	-	29.4	28.5	30.5
Cranial nerves & other nervous system	0.4	0.4	0.4	-	-	-	80.1	78.0	82.1
Endocrine System:	16.5	9.0	23.8	0.8	0.8	0.8	96.6	92.8	97.9
Thyroid	15.7	8.1	23.1	0.5	0.5	0.5	98.3	95.9	98.9
Other endocrine & thymus	0.8	0.9	0.7	0.3	0.3	0.3	65.3	66.0	64.5
Lymphoma:	22.2	26.8	18.5	5.8	7.5	4.5	74.6	73.5	76.0
Hodgkin lymphoma	2.6	2.9	2.3	0.3	0.4	0.2	87.4	86.5	88.6
Non-Hodgkin lymphoma	19.6	23.8	16.2	5.5	7.1	4.2	72.7	71.5	74.2
Myeloma	7.0	8.8	5.7	3.3	4.1	2.6	53.9	53.7	54.1
Leukemia:	14.1	18.1	11.0	6.4	8.6	4.8	63.7	64.6	62.4
Lymphocytic:	7.1	9.4	5.3	1.7	2.4	1.2	81.3	81.6	80.9
Acute lymphocytic	1.7	2.0	1.5	0.4	0.5	0.4	68.8	68.4	69.2
Chronic lymphocytic	5.0	6.8	3.5	1.2	1.7	0.8	86.1	85.9	86.3
Other lymphocytic	0.4	0.6	0.2	0.1	0.2	0.1	82.4	85.3	73.2
Myeloid & Monocytic:	6.5	8.1	5.3	3.4	4.4	2.6	42.7	42.6	42.9
Acute myeloid	4.3	5.2	3.6	2.8	3.6	2.2	28.7	27.7	29.9
Chronic myeloid	1.9	2.5	1.5	0.3	0.4	0.2	70.4	69.5	71.6
Acute monocytic	0.2	0.2	0.2	0.0	0.0	0.0	23.6	21.7	25.7
Other myeloid & monocytic	0.1	0.2	0.1	0.2	0.4	0.2	38.7	40.7	36.0
Other leukemia:	0.5	0.6	0.4	1.3	1.8	1.0	34.1	35.4	32.5
Other acute leukemia	0.2	0.3	0.2	0.4	0.6	0.3	25.9	27.9	23.6
Aleukemic, subleukemic & NOS	0.3	0.3	0.2	0.9	1.2	0.7	40.4	41.6	39.1
Kaposi Sarcoma[f]	0.5	0.9	0.1	-	-	-	74.4	73.8	79.8
Mesothelioma[f]	0.9	1.6	0.4	-	-	-	10.1	7.7	17.1
Ill-defined & unspecified	7.5	8.7	6.5	11.6	14.6	9.4	18.6	22.0	15.0

Note: Incidence and death rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

[a] SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

[b] US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.

[c] SEER 18 areas. Based on follow-up of patients into 2017. Expected survival rates are derived from life tables by socio-economic status, geography and race developed by the SEER program.

[d] Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

[e] Due to coding changes, Brain & Nervous System mortality are no longer shown separately.

[f] Rate not shown for mortality. Category did not exist in mortality coding until 1999.

- Statistic could not be calculated due to less than 16 cases in the time interval.

Table 1.5
Age-Adjusted SEER Incidence and U.S. Death Rates and 5-Year Relative Survival (Percent)
By Primary Cancer Site, Sex and Time Period

Whites

Site	Incidence[a] (2013-2017) Total	Males	Females	US Mortality[b] (2013-2017) Total	Males	Females	Survival[c] (%) (2010-2016) Total	Males	Females
All Sites	452.1	485.5	432.0	159.0	189.6	136.4	67.8	66.5	69.1
Oral Cavity & Pharynx:	12.0	18.1	6.6	2.5	3.9	1.4	67.6	67.3	68.3
Lip	0.7	1.1	0.4	0.0	0.0	0.0	92.0	91.9	90.1
Tongue	3.9	5.9	2.1	0.7	1.0	0.4	68.6	69.0	67.3
Salivary gland	1.3	1.8	1.0	0.3	0.4	0.1	70.5	63.6	80.9
Floor of mouth	0.5	0.7	0.3	0.0	0.0	0.0	52.3	50.2	56.9
Gum & other oral cavity	1.6	1.9	1.3	0.4	0.5	0.3	59.8	57.2	62.9
Nasopharynx	0.4	0.5	0.2	0.1	0.2	0.1	58.1	55.8	63.8
Tonsil	2.3	3.9	0.8	0.3	0.4	0.1	76.3	76.6	74.7
Oropharynx	0.5	0.8	0.2	0.3	0.4	0.1	52.1	54.7	41.7
Hypopharynx	0.5	0.9	0.2	0.1	0.2	0.0	39.3	39.3	39.1
Other oral cavity & pharynx	0.3	0.5	0.1	0.4	0.7	0.2	51.1	54.1	38.3
Digestive System:	79.1	95.8	65.0	40.0	51.1	30.5	43.8	41.4	46.8
Esophagus	4.5	7.8	1.8	4.2	7.4	1.4	20.6	20.1	22.8
Stomach	6.5	8.9	4.6	2.7	3.6	1.9	30.8	27.7	35.9
Small intestine	2.3	2.7	2.0	0.4	0.5	0.3	69.0	68.5	69.6
Colon & Rectum:	37.8	43.0	33.3	13.6	16.2	11.5	65.0	64.5	65.5
Colon	26.5	29.0	24.4	-	-	-	64.2	63.9	64.5
Rectum	11.2	13.9	8.9	-	-	-	66.7	65.6	68.2
Anus, anal canal & anorectum	2.1	1.6	2.5	0.3	0.2	0.3	69.7	64.9	72.2
Liver & intrahepatic bile duct	8.1	12.4	4.4	6.2	9.0	3.8	18.7	18.6	18.9
Gallbladder	1.1	0.8	1.4	0.5	0.4	0.7	19.4	20.7	18.7
Other biliary	1.8	2.3	1.5	0.4	0.5	0.4	18.1	19.6	16.2
Pancreas	13.1	15.0	11.6	10.9	12.7	9.4	9.8	9.9	9.8
Retroperitoneum	0.4	0.4	0.3	0.1	0.1	0.1	55.1	53.6	56.4
Peritoneum, omentum & mesentery	0.5	0.1	0.9	0.3	0.1	0.4	31.6	33.0	31.6
Other digestive system	0.8	0.9	0.7	0.3	0.4	0.3	6.8	6.0	7.6
Respiratory System:	59.9	68.5	53.3	42.3	51.5	35.1	23.5	21.8	25.4
Nose, nasal cavity & middle ear	0.7	0.9	0.5	0.1	0.2	0.1	58.4	59.3	57.0
Larynx	2.9	5.1	1.1	0.9	1.7	0.4	61.7	62.3	59.2
Lung & bronchus	56.0	62.2	51.5	41.0	49.4	34.5	20.6	17.2	24.2
Pleura[d]	0.0	0.0	0.0	0.1	0.1	0.0	23.2	19.8	29.7
Trachea & other respiratory organs	0.2	0.3	0.1	0.1	0.1	0.1	54.7	53.5	57.8
Bones & joints	1.0	1.2	0.9	0.5	0.6	0.4	66.0	63.5	69.3
Soft tissue (including heart)	3.5	4.3	2.9	1.3	1.6	1.1	64.8	64.6	65.0
Skin (excl. basal & squamous):	29.4	37.7	23.2	3.9	6.0	2.2	91.4	89.5	94.0
Melanoma of the skin	27.2	34.6	21.7	2.8	4.1	1.7	92.2	90.4	94.5
Other non-epithelial skin	2.2	3.1	1.5	1.1	1.9	0.5	81.1	78.2	85.7
Breast	69.5	1.2	131.3	10.9	0.3	19.8	90.9	85.7	90.9
Breast (*in situ*)	17.0	0.1	32.8	-	-	-	100.0	99.9	100.0

Note: Incidence and death rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

[a] SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

[b] US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.

[c] SEER 18 areas. Based on follow-up of patients into 2017. Expected survival rates are derived from life tables by socio-economic status, geography and race developed by the SEER program.

[d] Mesotheliomas of the Pleura are included in the separate group Mesothelioma for incidence but are included in the Pleura grouping for mortality.

- Statistic could not be calculated due to less than 16 cases in the time interval.

Table 1.5 - continued
Age-Adjusted SEER Incidence and U.S. Death Rates and 5-Year Relative Survival (Percent)
By Primary Cancer Site, Sex and Time Period

Whites

Site	Incidence[a] (2013-2017) Total	Males	Females	US Mortality[b] (2013-2017) Total	Males	Females	Survival[c] (%) (2010-2016) Total	Males	Females
Female Genital System:	27.5	-	52.4	8.1	-	14.9	71.3	-	71.3
Cervix uteri	3.7	-	7.2	1.1	-	2.2	67.5	-	67.5
Corpus uteri	14.5	-	27.6	1.2	-	2.1	84.9	-	84.9
Uterus, NOS	0.4	-	0.8	1.3	-	2.3	30.2	-	30.2
Ovary[d]	6.2	-	11.7	3.9	-	7.1	48.4	-	48.4
Vagina	0.4	-	0.7	0.1	-	0.2	48.3	-	48.3
Vulva	1.5	-	2.8	0.3	-	0.6	69.8	-	69.8
Other female genital system	0.9	-	1.7	0.2	-	0.4	49.8	-	49.8
Male Genital System:	51.4	110.5	-	7.6	18.4	-	97.4	97.4	-
Prostate	47.3	102.3	-	7.4	17.9	-	97.8	97.8	-
Testis	3.6	7.1	-	0.1	0.3	-	95.0	95.0	-
Penis	0.4	0.9	-	0.1	0.2	-	65.2	65.2	-
Other male genital system	0.1	0.3	-	0.0	0.0	-	83.5	83.5	-
Urinary System:	39.8	62.7	21.4	8.7	13.9	4.7	75.8	76.4	74.4
Urinary bladder	22.0	38.2	9.4	4.6	8.0	2.2	77.3	78.5	73.5
Kidney & renal pelvis	16.8	23.0	11.4	3.8	5.6	2.4	75.1	74.4	76.2
Ureter	0.6	0.8	0.4	0.1	0.2	0.1	48.4	49.1	47.5
Other urinary system	0.4	0.7	0.2	0.1	0.2	0.1	47.6	50.7	40.6
Eye & Orbit	1.0	1.1	0.9	0.1	0.1	0.1	82.7	82.9	82.6
Brain & Nervous System:[e]	7.1	8.3	6.0	4.8	5.8	3.9	31.3	30.0	33.0
Brain	6.6	7.8	5.6	-	-	-	28.2	27.4	29.4
Cranial nerves & other nervous system	0.4	0.4	0.4	-	-	-	80.9	78.9	82.9
Endocrine System:	17.2	9.4	24.9	0.8	0.9	0.7	97.0	93.3	98.2
Thyroid	16.4	8.6	24.3	0.5	0.5	0.5	98.5	96.2	99.1
Other endocrine & thymus	0.8	0.8	0.7	0.3	0.3	0.3	64.7	65.5	63.8
Lymphoma:	23.4	28.0	19.5	6.0	7.8	4.7	74.9	73.8	76.4
Hodgkin lymphoma	2.8	3.1	2.5	0.3	0.4	0.2	87.5	86.6	88.6
Non-Hodgkin lymphoma	20.6	25.0	17.0	5.7	7.4	4.4	73.1	71.9	74.6
Myeloma	6.4	8.2	5.0	3.0	3.9	2.4	52.7	52.8	52.5
Leukemia:	15.0	19.2	11.6	6.7	8.9	5.0	64.0	64.4	63.3
Lymphocytic:	7.8	10.2	5.7	1.8	2.5	1.3	81.3	81.2	81.5
Acute lymphocytic	1.9	2.2	1.6	0.5	0.6	0.4	68.4	67.6	69.6
Chronic lymphocytic	5.4	7.3	3.9	1.2	1.8	0.8	85.9	85.4	86.7
Other lymphocytic	0.4	0.7	0.2	0.1	0.2	0.1	83.3	86.0	74.6
Myeloid & Monocytic:	6.8	8.4	5.5	3.5	4.6	2.7	41.9	41.5	42.5
Acute myeloid	4.4	5.4	3.7	2.9	3.7	2.2	28.3	27.2	29.6
Chronic myeloid	2.0	2.6	1.5	0.3	0.4	0.2	69.3	68.2	70.9
Acute monocytic	0.2	0.2	0.2	0.0	0.0	0.0	24.0	21.7	26.9
Other myeloid & monocytic	0.1	0.2	0.1	0.3	0.4	0.2	36.7	38.1	34.7
Other leukemia:	0.5	0.6	0.4	1.4	1.8	1.0	32.5	33.2	31.7
Other acute leukemia	0.2	0.3	0.2	0.5	0.6	0.4	25.3	27.2	23.2
Aleukemic, subleukemic & NOS	0.3	0.3	0.2	0.9	1.2	0.7	38.4	38.3	38.4
Kaposi Sarcoma[f]	0.4	0.7	0.1	-	-	-	77.5	75.8	86.9
Mesothelioma[f]	1.0	1.7	0.5	-	-	-	9.5	7.3	16.3
Ill-defined & unspecified	7.6	8.9	6.6	11.8	14.8	9.5	19.4	23.3	15.4

Note: Incidence and death rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

[a] SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

[b] US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.

[c] SEER 18 areas. Based on follow-up of patients into 2017. Expected survival rates are derived from life tables by socio-economic status, geography and race developed by the SEER program.

[d] Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

[e] Due to coding changes, Brain & Nervous System mortality are no longer shown separately.

[f] Rate not shown for mortality. Category did not exist in mortality coding until 1999.

- Statistic could not be calculated due to less than 16 cases in the time interval.

Table 1.6
Age-Adjusted SEER Incidence and U.S. Death Rates and 5-Year Relative Survival (Percent)
By Primary Cancer Site, Sex and Time Period

Blacks

Site	Incidence[a] (2013-2017) Total	Males	Females	US Mortality[b] (2013-2017) Total	Males	Females	Survival[c] (%) (2010-2016) Total	Males	Females
All Sites	440.4	515.1	390.7	181.7	227.3	153.4	62.5	64.4	60.6
Oral Cavity & Pharynx:	8.5	13.3	4.9	2.7	4.5	1.3	49.5	47.6	53.8
Lip	0.1	0.1	0.0	-	-	-	72.0	63.8	-
Tongue	1.9	3.2	1.0	0.5	0.8	0.3	46.4	47.1	44.6
Salivary gland	1.1	1.1	1.1	0.2	0.3	0.2	74.3	68.6	78.9
Floor of mouth	0.4	0.7	0.2	0.0	0.1	-	40.2	40.1	39.1
Gum & other oral cavity	1.2	1.5	1.0	0.3	0.5	0.2	53.7	48.7	58.9
Nasopharynx	0.7	1.0	0.3	0.2	0.4	0.1	52.1	53.8	48.9
Tonsil	1.6	2.9	0.6	0.2	0.4	0.1	58.9	59.5	56.0
Oropharynx	0.6	1.0	0.3	0.4	0.6	0.2	31.7	31.1	32.4
Hypopharynx	0.8	1.4	0.3	0.2	0.3	0.0	21.3	21.1	21.7
Other oral cavity & pharynx	0.2	0.4	0.1	0.6	1.1	0.2	30.8	29.0	35.4
Digestive System:	94.7	117.4	78.2	51.7	67.5	40.2	40.5	37.0	44.3
Esophagus	3.7	6.1	2.0	3.2	5.3	1.6	14.0	12.2	17.7
Stomach	10.1	13.8	7.6	5.3	7.8	3.6	31.9	26.1	39.4
Small intestine	3.8	4.4	3.4	0.6	0.8	0.6	65.8	66.6	65.0
Colon & Rectum:	43.6	51.3	38.2	18.5	23.2	15.2	58.8	56.8	60.6
Colon	32.0	36.5	28.8	-	-	-	57.0	56.2	57.7
Rectum	11.6	14.8	9.3	-	-	-	63.4	58.3	69.4
Anus, anal canal & anorectum	2.1	2.2	1.9	0.3	0.3	0.2	62.3	57.7	66.7
Liver & intrahepatic bile duct	10.7	17.7	5.4	8.4	13.2	4.8	17.1	15.9	20.5
Gallbladder	1.8	1.4	2.2	0.9	0.7	1.0	16.3	15.5	16.5
Other biliary	1.8	2.1	1.6	0.4	0.5	0.4	17.1	14.9	19.0
Pancreas	15.3	16.9	14.1	13.3	14.9	12.0	10.1	9.2	10.8
Retroperitoneum	0.4	0.3	0.4	0.1	0.1	0.1	54.9	56.5	53.6
Peritoneum, omentum & mesentery	0.4	0.1	0.5	0.2	0.1	0.3	34.3	39.9	33.7
Other digestive system	0.9	1.0	0.8	0.5	0.6	0.4	7.8	6.2	9.3
Respiratory System:	59.5	79.6	45.8	44.1	62.3	31.8	21.4	19.6	23.6
Nose, nasal cavity & middle ear	0.6	0.8	0.5	0.1	0.2	0.1	55.2	54.0	57.1
Larynx	3.9	7.3	1.4	1.6	3.0	0.5	51.7	52.6	48.7
Lung & bronchus	54.8	71.2	43.8	42.3	58.8	31.1	18.4	15.1	22.3
Pleura[d]	-	-	-	0.0	0.1	0.0	-	-	-
Trachea & other respiratory organs	0.2	0.2	0.1	0.1	0.1	0.0	49.9	47.2	55.3
Bones & joints	0.8	0.9	0.7	0.5	0.6	0.4	63.1	64.4	61.6
Soft tissue (including heart)	3.4	3.8	3.1	1.5	1.5	1.5	61.1	60.9	61.3
Skin (excl. basal & squamous):	2.1	2.3	2.0	0.8	1.1	0.5	82.2	77.8	85.5
Melanoma of the skin	1.0	1.1	0.9	0.3	0.4	0.3	66.7	59.5	72.1
Other non-epithelial skin	1.1	1.2	1.1	0.4	0.7	0.2	93.5	90.4	96.0
Breast	71.3	1.8	124.8	16.2	0.5	27.6	81.9	73.9	82.0
Breast (*in situ*)	18.6	0.2	33.0	-	-	-	100.0	95.2	100.0

Note: Incidence and death rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

[a] SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

[b] US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.

[c] SEER 18 areas. Based on follow-up of patients into 2017. Expected survival rates are derived from life tables by socio-economic status, geography and race developed by the SEER program.

[d] Mesotheliomas of the Pleura are included in the separate group Mesothelioma for incidence but are included in the Pleura grouping for mortality.

- Statistic could not be calculated due to less than 16 cases in the time interval.

Table 1.6 - continued
Age-Adjusted SEER Incidence and U.S. Death Rates and 5-Year Relative Survival (Percent)
By Primary Cancer Site, Sex and Time Period

Blacks

Site	Incidence[a] (2013-2017) Total	Males	Females	US Mortality[b] (2013-2017) Total	Males	Females	Survival[c] (%) (2010-2016) Total	Males	Females
Female Genital System:	28.2	-	49.8	11.0	-	18.9	56.9	-	56.9
Cervix uteri	4.8	-	8.7	1.9	-	3.4	55.6	-	55.6
Corpus uteri	14.9	-	26.2	2.1	-	3.6	65.1	-	65.1
Uterus, NOS	1.0	-	1.7	2.9	-	4.9	23.5	-	23.5
Ovary[d]	5.2	-	9.1	3.5	-	6.0	40.8	-	40.8
Vagina	0.5	-	0.9	0.2	-	0.3	44.3	-	44.3
Vulva	1.0	-	1.8	0.2	-	0.3	71.5	-	71.5
Other female genital system	0.8	-	1.3	0.2	-	0.3	52.3	-	52.3
Male Genital System:	75.7	178.2	-	14.2	38.3	-	96.0	96.0	-
Prostate	74.4	175.2	-	14.0	37.9	-	96.2	96.2	-
Testis	0.8	1.7	-	0.1	0.1	-	92.3	92.3	-
Penis	0.4	1.0	-	0.1	0.2	-	58.4	58.4	-
Other male genital system	0.1	0.3	-	0.0	0.1	-	68.7	68.7	-
Urinary System:	29.9	45.1	19.2	7.2	11.0	4.8	71.0	72.0	69.6
Urinary bladder	11.8	19.7	6.5	3.5	5.3	2.4	63.9	68.4	55.2
Kidney & renal pelvis	17.5	24.5	12.2	3.6	5.4	2.2	75.8	74.8	77.3
Ureter	0.2	0.3	0.2	0.0	0.0	0.0	28.8	21.1	33.2
Other urinary system	0.5	0.6	0.4	0.1	0.2	0.1	41.9	44.2	37.2
Eye & Orbit	0.3	0.3	0.3	0.0	0.0	0.0	88.1	85.4	90.1
Brain & Nervous System:[e]	3.9	4.5	3.3	2.6	3.2	2.2	38.9	37.2	40.7
Brain	3.5	4.2	3.0	-	-	-	35.0	33.6	36.5
Cranial nerves & other nervous system	0.3	0.4	0.3	-	-	-	77.0	77.0	76.4
Endocrine System:	10.5	5.0	15.2	0.9	0.8	0.9	94.3	87.2	96.1
Thyroid	9.5	4.0	14.3	0.5	0.4	0.6	97.2	92.8	97.9
Other endocrine & thymus	1.0	1.0	0.9	0.4	0.4	0.3	67.0	67.2	66.7
Lymphoma:	17.4	20.7	14.8	4.3	5.5	3.4	71.6	69.4	74.3
Hodgkin lymphoma	2.7	3.1	2.3	0.3	0.3	0.2	85.4	83.3	87.7
Non-Hodgkin lymphoma	14.7	17.7	12.5	4.0	5.2	3.2	68.4	66.0	71.2
Myeloma	13.8	16.5	12.0	6.2	7.5	5.3	56.8	56.3	57.3
Leukemia:	10.8	13.6	8.9	5.4	7.0	4.3	58.9	62.4	55.0
Lymphocytic:	4.5	6.1	3.4	1.4	1.9	1.1	75.4	78.6	71.2
Acute lymphocytic	1.0	1.1	0.9	0.3	0.4	0.3	65.2	66.4	63.6
Chronic lymphocytic	3.3	4.8	2.4	1.0	1.5	0.7	79.7	83.0	75.2
Other lymphocytic	0.2	0.3	0.1	0.1	0.1	0.1	69.0	73.5	55.0
Myeloid & Monocytic:	5.7	6.9	5.0	2.7	3.4	2.2	44.5	45.7	43.3
Acute myeloid	3.7	4.4	3.3	2.2	2.7	1.9	28.6	27.7	29.5
Chronic myeloid	1.8	2.2	1.5	0.3	0.4	0.2	71.6	72.7	70.2
Acute monocytic	0.1	0.2	0.1	0.0	0.0	-	24.3	29.1	21.0
Other myeloid & monocytic	0.1	0.2	0.1	0.2	0.3	0.1	38.3	42.0	31.2
Other leukemia:	0.6	0.6	0.6	1.3	1.7	1.0	41.6	45.1	37.2
Other acute leukemia	0.2	0.2	0.2	0.3	0.4	0.3	29.3	26.4	34.3
Aleukemic, subleukemic & NOS	0.4	0.4	0.4	1.0	1.2	0.8	48.0	55.9	39.3
Kaposi Sarcoma[f]	1.0	2.0	0.2	-	-	-	64.9	66.7	35.5
Mesothelioma[f]	0.5	0.9	0.2	-	-	-	15.3	10.9	22.1
Ill-defined & unspecified	8.1	9.3	7.3	12.6	16.1	10.3	12.9	13.1	13.0

Note: Incidence and death rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

[a] SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

[b] US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.

[c] SEER 18 areas. Based on follow-up of patients into 2017. Expected survival rates are derived from life tables by socio-economic status, geography and race developed by the SEER program.

[d] Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

[e] Due to coding changes, Brain & Nervous System mortality are no longer shown separately.

[f] Rate not shown for mortality. Category did not exist in mortality coding until 1999.

- Statistic could not be calculated due to less than 16 cases in the time interval.

Table 1.7
SEER Incidence and U.S. Mortality Trends by Primary Cancer Site and Sex
All Races, 2008-2017

Site	Incidence[a] Total APC	Incidence[a] Males APC	Incidence[a] Females APC	US Mortality[b] Total APC	US Mortality[b] Males APC	US Mortality[b] Females APC
All Sites	-1.1*	-1.9*	-0.3*	-1.6*	-1.8*	-1.4*
Oral Cavity & Pharynx:	0.5*	0.6*	0.1	0.6*	0.9*	-0.1
Lip	-1.0	-1.4	-0.3	-1.2	-1.9	-0.2
Tongue	1.4*	1.4*	1.2*	1.5*	1.8*	0.9
Salivary gland	0.0	-0.6	0.6	1.3*	1.5*	0.9
Floor of mouth	-3.7*	-3.7*	-3.7*	-3.4*	-2.7	-5.4
Gum & other oral cavity	-0.2	0.0	-0.5	0.6	1.1	-0.1
Nasopharynx	-0.9	-0.5	-1.9*	-0.9	-0.6*	-1.7
Tonsil	2.1*	2.3*	1.2	2.3*	2.6*	1.3
Oropharynx	2.1*	2.6*	0.7	3.2*	3.7*	1.7*
Hypopharynx	-2.5*	-2.7*	-2.3	1.4	1.9*	-1.2
Other oral cavity & pharynx	2.4	2.9	0.4	-2.5*	-2.6*	-2.8*
Digestive System:	-1.0*	-1.1*	-0.9*	-0.6*	-0.7*	-0.7*
Esophagus	-1.5*	-1.6*	-1.5*	-1.1*	-1.2*	-1.5*
Stomach	-0.8*	-1.3*	-0.2	-2.0*	-2.3*	-1.8*
Small intestine	1.4*	1.0*	1.7*	1.7*	1.8*	1.7
Colon & Rectum:	-2.3*	-2.4*	-2.2*	-2.1*	-2.2*	-2.1*
Colon	-2.6*	-2.8*	-2.4*	-	-	-
Rectum	-1.5*	-1.6*	-1.5*	-	-	-
Anus, anal canal & anorectum	1.0*	0.2	1.6*	2.8*	2.6*	3.0*
Liver & intrahepatic bile duct	1.4*	1.1*	2.1*	2.0*	1.7*	2.4*
Gallbladder	-0.3	-0.2	-0.2	-1.2*	-1.5*	-1.0*
Other biliary	-0.2	-0.3	-0.2	0.8	0.8	0.6
Pancreas	0.5*	0.5*	0.4*	0.2	0.3*	0.0
Retroperitoneum	-1.1*	-1.2*	-0.9	1.9	2.5	1.1
Peritoneum, omentum & mesentery	-4.1*	-2.4	-4.1*	0.8	2.7*	0.5
Other digestive system	6.0*	5.8*	6.0*	3.4*	3.0*	3.6*
Respiratory System:	-2.2*	-2.9*	-1.5*	-3.1*	-3.7*	-2.6*
Nose, nasal cavity & middle ear	-0.3	-0.8	0.4	-1.2	-1.0	-1.7
Larynx	-3.0*	-3.1*	-3.0*	-2.2*	-2.3*	-2.5*
Lung & bronchus	-2.2*	-2.9*	-1.5*	-3.2*	-3.8*	-2.6*
Pleura	-6.0	-6.2	-6.8	3.7*	3.2*	4.0*
Trachea & other respiratory organs	-1.5	-1.3	-2.0	1.1	0.2	2.1*
Bones & joints	0.4	0.6	0.1	1.0*	1.3*	0.6
Soft tissue (including heart)	0.3	0.6*	-0.1	0.2	0.1	0.3
Skin (excl. basal & squamous):	1.2*	1.1*	1.2*	-1.5*	-1.4*	-1.8*
Melanoma of the skin	1.2*	1.1*	1.3*	-2.8*	-2.9*	-2.9*
Other non-epithelial skin	0.6	0.9	0.1	2.3*	2.1*	2.1*
Breast	0.0	0.3	0.2	-1.6*	-0.9	-1.4*
Breast (*in situ*)	-1.3*	-0.2	-1.2*	-	-	-

The APC is the Annual Percent Change over the time interval.
Trends are based on rates age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

[a] SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

[b] US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.

* The APC is significantly different from zero (p<.05).

\- Statistic could not be calculated. Trend based on less than 10 cases for at least one year within the time interval.

Table 1.7 - continued
SEER Incidence and U.S. Mortality Trends by Primary Cancer Site and Sex
All Races, 2008-2017

Site	Incidence[a] Total APC	Incidence[a] Males APC	Incidence[a] Females APC	US Mortality[b] Total APC	US Mortality[b] Males APC	US Mortality[b] Females APC
Female Genital System:	0.0	-	0.2	-0.6*	-	-0.4*
Cervix uteri	-0.8*	-	-0.7	-0.6*	-	-0.4*
Corpus uteri	0.8*	-	1.0*	3.9*	-	4.1*
Uterus, NOS	2.2*	-	2.4*	0.2	-	0.5
Ovary[c]	-2.3*	-	-2.1*	-2.4*	-	-2.2*
Vagina	-1.2*	-	-1.0	-2.2*	-	-2.0*
Vulva	0.4	-	0.6	1.3*	-	1.6*
Other female genital system	9.0*	-	9.0*	7.0*	-	7.2*
Male Genital System:	-4.0*	-4.2*	-	-1.5*	-2.1*	-
Prostate	-4.3*	-4.5*	-	-1.5*	-2.2*	-
Testis	0.6*	0.5*	-	0.5	0.4	-
Penis	0.1	-0.1	-	2.2*	2.0*	-
Other male genital system	-0.6	-1.1	-	4.0	3.3	-
Urinary System:	-0.6*	-0.8*	-0.5*	-0.7*	-0.7*	-1.0*
Urinary bladder	-1.4*	-1.6*	-1.5*	-0.3*	-0.4*	-0.5*
Kidney & renal pelvis	0.4*	0.4	0.3	-1.2*	-1.1*	-1.5*
Ureter	-1.4*	-1.5*	-1.3	0.0	0.4	-0.4
Other urinary system	1.9	0.8	3.9*	0.5	1.1	-0.9
Eye & Orbit	-0.5	-0.9	-0.1	0.9	1.2	0.5
Brain & Nervous System:[d]	-0.8*	-0.8*	-0.8	0.5*	0.4	0.6*
Brain	-0.8*	-0.8*	-0.8	-	-	-
Cranial nerves & other nervous system	-0.9*	-0.7	-1.0	-	-	-
Endocrine System:	0.9	1.4*	0.8	-0.2	0.3	-0.5
Thyroid	1.0	1.5*	0.8	-0.2	0.6	-0.7
Other endocrine & thymus	-0.5	-0.2	-0.8	-0.2	-0.3	0.0
Lymphoma:	-0.9*	-0.9*	-0.9*	-2.3*	-2.1*	-2.6*
Hodgkin lymphoma	-1.6*	-1.7*	-1.5*	-4.2*	-3.8*	-4.7*
Non-Hodgkin lymphoma	-0.8*	-0.8*	-0.8*	-2.2*	-2.0*	-2.5*
Myeloma	0.7*	0.6	0.6*	-0.4	-0.5*	-0.5
Leukemia:	-0.3	-0.4	-0.3	-1.6*	-1.8*	-1.6*
Lymphocytic:	-0.8*	-1.0*	-0.7	-2.1*	-2.4*	-1.9*
Acute lymphocytic	0.6	0.7*	0.4	-0.5*	-0.3	-0.9
Chronic lymphocytic	-1.2*	-1.4*	-1.2*	-2.8*	-3.0*	-2.6*
Other lymphocytic	-1.4*	-1.8*	-0.8	-0.9	-1.6*	0.5
Myeloid & Monocytic:	0.7	0.7	0.6	-0.2	-0.3	-0.2
Acute myeloid	1.1	1.2	0.9	-0.3	-0.4*	-0.3
Chronic myeloid	0.8	0.6	0.9*	-0.3	-0.8	0.0
Acute monocytic	-4.0*	-4.0*	-3.9*	-1.6	-1.3	-2.2
Other myeloid & monocytic	-3.8*	-4.0*	-3.9*	2.0*	2.4*	1.3
Other leukemia:	-5.2*	-4.8*	-5.8*	-4.2*	-4.2*	-4.4*
Other acute leukemia	-2.7*	-2.4*	-3.0*	-6.3*	-6.3*	-6.6*
Aleukemic, subleukemic & NOS	-7.0*	-6.5*	-7.7*	-3.1*	-3.2*	-3.3*
Kaposi Sarcoma[e]	-3.4*	-3.5*	-3.7*	-	-	-
Mesothelioma[e]	-2.8*	-3.9*	-0.1	-	-	-
Ill-defined & unspecified	-3.0*	-2.7*	-3.2*	-1.5*	-1.7*	-1.4*

The APC is the Annual Percent Change over the time interval.
Trends are based on rates age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

[a] SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

[b] US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.

[c] Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

[d] Due to coding changes, Brain & Nervous System mortality are no longer shown separately.

[e] Trend not shown for mortality. Category did not exist in mortality coding until 1999.

* The APC is significantly different from zero (p<.05).

\- Statistic could not be calculated. Trend based on less than 10 cases for at least one year within the time interval.

Table 1.8
SEER Incidence and U.S. Mortality Trends by Primary Cancer Site and Sex
Whites, 2008-2017

Site	Incidence[a] Total APC	Incidence[a] Males APC	Incidence[a] Females APC	US Mortality[b] Total APC	US Mortality[b] Males APC	US Mortality[b] Females APC
All Sites	-1.1*	-1.9*	-0.4*	-1.4*	-1.7*	-1.3*
Oral Cavity & Pharynx:	0.6*	0.8*	0.2	1.0*	1.3*	0.2
Lip	-0.9	-1.3	0.0	-1.3	-2.4	0.8
Tongue	1.7*	1.8*	1.4*	2.0*	2.4*	1.1
Salivary gland	-0.4	-0.7	0.0	1.5*	1.7*	0.8
Floor of mouth	-3.7*	-3.8*	-3.5*	-3.8*	-3.0	-5.8
Gum & other oral cavity	-0.3	-0.2	-0.4	0.7	1.2	0.0
Nasopharynx	-2.0*	-1.6*	-3.0*	-1.3*	-1.2*	-1.4
Tonsil	2.4*	2.6*	1.4	2.8*	3.0*	1.6
Oropharynx	2.6*	2.9*	1.1	3.9*	4.4*	2.4*
Hypopharynx	-2.5*	-2.5*	-3.2	1.5	1.9*	-1.1
Other oral cavity & pharynx	3.5*	3.9*	1.8	-2.2*	-2.2*	-2.6*
Digestive System:	-0.9*	-1.1*	-0.8*	-0.5*	-0.5*	-0.5*
Esophagus	-1.2*	-1.4*	-1.0	-0.6*	-0.7*	-1.0*
Stomach	-0.7*	-1.4*	0.2	-1.9*	-2.3*	-1.6*
Small intestine	1.1*	0.7	1.4*	1.8*	2.2*	1.3
Colon & Rectum:	-2.2*	-2.4*	-2.0*	-2.0*	-2.2*	-1.9*
Colon	-2.5*	-2.8*	-2.2*	-	-	-
Rectum	-1.5*	-1.7*	-1.5*	-	-	-
Anus, anal canal & anorectum	1.3*	0.3	1.9*	3.3*	3.3*	3.4*
Liver & intrahepatic bile duct	1.9*	1.5*	2.8*	2.3*	2.0*	2.7*
Gallbladder	-0.5	-0.3	-0.4	-1.3*	-1.3	-1.2*
Other biliary	-0.4	-0.5	-0.6	0.8	0.9	0.6
Pancreas	0.5*	0.6*	0.4	0.3*	0.4*	0.1
Retroperitoneum	-1.3	-1.2	-1.3	1.5	2.3	0.4
Peritoneum, omentum & mesentery	-4.5*	-2.5	-4.6*	0.6	2.9*	0.2
Other digestive system	6.1*	6.2*	5.7*	3.6*	2.9*	4.1*
Respiratory System:	-2.2*	-2.9*	-1.5*	-3.0*	-3.6*	-2.5*
Nose, nasal cavity & middle ear	-0.3	-0.9	0.4	-1.0	-0.8	-1.6
Larynx	-3.0*	-3.1*	-2.9*	-2.0*	-2.1*	-2.4*
Lung & bronchus	-2.2*	-2.9*	-1.5*	-3.1*	-3.7*	-2.5*
Pleura	-5.9*	-7.1	-5.1	3.9*	3.4*	4.3*
Trachea & other respiratory organs	-1.6*	-1.2	-2.3*	1.3	0.4	2.5
Bones & joints	0.3	0.5	0.1	1.1*	1.5*	0.5
Soft tissue (including heart)	0.1	0.4	-0.4	0.2	0.2	0.2
Skin (excl. basal & squamous):	1.2*	1.1*	1.3*	-1.3*	-1.2*	-1.6*
Melanoma of the skin	1.3*	1.2*	1.4*	-2.6*	-2.7*	-2.7*
Other non-epithelial skin	0.5	0.9	-0.3	2.6*	2.5*	2.3*
Breast	-0.2	0.1	0.0	-1.6*	-0.8	-1.4*
Breast (*in situ*)	-1.9*	-0.5	-1.8*	-	-	-

The APC is the Annual Percent Change over the time interval.
Trends are based on rates age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

[a] SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

[b] US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.

* The APC is significantly different from zero (p<.05).

\- Statistic could not be calculated. Trend based on less than 10 cases for at least one year within the time interval.

Table 1.8 - continued
SEER Incidence and U.S. Mortality Trends by Primary Cancer Site and Sex
Whites, 2008-2017

Site	Incidence[a] Total APC	Incidence[a] Males APC	Incidence[a] Females APC	US Mortality[b] Total APC	US Mortality[b] Males APC	US Mortality[b] Females APC
Female Genital System:	-0.2	-	0.0	-0.6*	-	-0.4*
Cervix uteri	-0.8	-	-0.7	0.1	-	0.2
Corpus uteri	0.5*	-	0.7*	3.7*	-	4.0*
Uterus, NOS	2.1*	-	2.5*	-0.1	-	0.2
Ovary[c]	-2.6*	-	-2.4*	-2.5*	-	-2.2*
Vagina	-1.8*	-	-1.5*	-2.2*	-	-1.9*
Vulva	0.5	-	0.8*	1.7*	-	2.0*
Other female genital system	9.0*	-	9.1*	7.3*	-	7.6*
Male Genital System:	-4.4*	-4.7*	-	-1.2*	-1.9*	-
Prostate	-4.8*	-5.0*	-	-1.3*	-2.0*	-
Testis	0.5*	0.4*	-	0.6	0.4	-
Penis	0.2	0.0	-	3.1*	2.9*	-
Other male genital system	-1.0	-1.5	-	3.4	2.7	-
Urinary System:	-0.6*	-0.8*	-0.5*	-0.5*	-0.6*	-0.9*
Urinary bladder	-1.4*	-1.6*	-1.5*	-0.1	-0.3*	-0.3
Kidney & renal pelvis	0.5*	0.4	0.4	-1.0*	-1.0*	-1.4*
Ureter	-1.2*	-1.3	-1.1	0.2	0.6	-0.3
Other urinary system	2.0	0.9	4.2*	0.9	1.2	-0.3
Eye & Orbit	-0.4	-0.9	0.1	1.1	1.3	0.8
Brain & Nervous System:[d]	-0.7*	-0.8*	-0.6	0.6*	0.5*	0.6*
Brain	-0.7*	-0.8*	-0.6	-	-	-
Cranial nerves & other nervous system	-1.1	-0.3	-1.8*	-	-	-
Endocrine System:	0.7	1.2*	0.5	-0.1	0.4*	-0.4
Thyroid	0.7	1.4*	0.6	0.0	0.7	-0.5
Other endocrine & thymus	-1.0	-0.7	-1.3	-0.1	0.0	-0.3
Lymphoma:	-0.9*	-0.9*	-1.0*	-2.3*	-2.1*	-2.6*
Hodgkin lymphoma	-1.7*	-1.8*	-1.6*	-4.1*	-3.7*	-4.8*
Non-Hodgkin lymphoma	-0.8*	-0.8*	-0.9*	-2.1*	-2.0*	-2.5*
Myeloma	0.6	0.5	0.5	-0.4	-0.5*	-0.6
Leukemia:	-0.4	-0.5	-0.4	-1.5*	-1.6*	-1.5*
Lymphocytic:	-0.9*	-1.1*	-0.9*	-1.9*	-2.1*	-1.9*
Acute lymphocytic	0.3	0.6*	-0.2	-0.4	0.0	-1.1
Chronic lymphocytic	-1.3*	-1.5*	-1.3*	-2.6*	-2.8*	-2.4*
Other lymphocytic	-1.1	-1.4*	-0.6	-0.8	-1.4	0.3
Myeloid & Monocytic:	0.8	0.7	0.7	-0.1	-0.2	-0.1
Acute myeloid	1.1	1.1	1.0	-0.3	-0.4*	-0.2
Chronic myeloid	0.9	0.8	1.0*	0.0	-0.4	0.4
Acute monocytic	-4.2*	-4.4*	-4.1*	-1.8	-1.7	-2.3
Other myeloid & monocytic	-4.2*	-4.4*	-4.5*	2.1*	2.2*	1.6
Other leukemia:	-5.4*	-4.8*	-6.4*	-4.0*	-4.1*	-4.3*
Other acute leukemia	-3.0*	-2.5*	-3.6*	-6.2*	-6.1*	-6.4*
Aleukemic, subleukemic & NOS	-7.3*	-6.5*	-8.5*	-2.9*	-3.0*	-3.0*
Kaposi Sarcoma[e]	-5.0*	-5.1*	-5.2	-	-	-
Mesothelioma[e]	-2.9*	-3.9*	-0.2	-	-	-
Ill-defined & unspecified	-3.0*	-2.8*	-3.2*	-1.3*	-1.5*	-1.3*

The APC is the Annual Percent Change over the time interval.
Trends are based on rates age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

[a] SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

[b] US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.

[c] Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

[d] Due to coding changes, Brain & Nervous System mortality are no longer shown separately.

[e] Trend not shown for mortality. Category did not exist in mortality coding until 1999.

* The APC is significantly different from zero (p<.05).

\- Statistic could not be calculated. Trend based on less than 10 cases for at least one year within the time interval.

Table 1.9
SEER Incidence and U.S. Mortality Trends by Primary Cancer Site and Sex
Blacks, 2008-2017

Site	Incidence[a] Total APC	Incidence[a] Males APC	Incidence[a] Females APC	US Mortality[b] Total APC	US Mortality[b] Males APC	US Mortality[b] Females APC
All Sites	-1.6*	-2.7*	-0.4*	-2.1*	-2.7*	-1.6*
Oral Cavity & Pharynx:	-1.2*	-1.3*	-1.0	-1.7*	-2.0*	-1.4
Lip	-5.3	-4.2	-5.3	-	-	-
Tongue	-2.1*	-1.8*	-2.7*	-1.7	-2.3*	-0.8
Salivary gland	1.0	-0.4	2.0	0.3	-0.9	1.4
Floor of mouth	-4.4*	-4.1*	-4.7	-	-	-
Gum & other oral cavity	-1.6	-1.6	-1.6	-0.9	-1.6	0.3
Nasopharynx	0.1	0.1	-0.6	-1.4	-0.1	-4.0*
Tonsil	0.4	0.7	-0.6	-1.4	-1.2	-0.9
Oropharynx	0.0	0.6	-1.4	-0.4	-0.2	-1.2
Hypopharynx	-3.1*	-4.2*	1.6	0.7	2.7	-
Other oral cavity & pharynx	-3.6	-2.5	-6.2	-4.5*	-5.1*	-3.5
Digestive System:	-1.6*	-1.8*	-1.5*	-1.5*	-1.7*	-1.5*
Esophagus	-4.1*	-4.5*	-3.8*	-4.6*	-5.1*	-3.7*
Stomach	-2.1*	-2.3*	-2.1*	-3.4*	-3.2*	-3.9*
Small intestine	1.9*	1.4*	2.3*	1.9	0.6	3.4
Colon & Rectum:	-3.0*	-3.0*	-3.0*	-2.8*	-2.8*	-2.9*
Colon	-3.3*	-3.5*	-3.2*	-	-	-
Rectum	-2.0*	-1.8*	-2.3*	-	-	-
Anus, anal canal & anorectum	0.3	-0.4	1.1	1.5*	0.9	2.6
Liver & intrahepatic bile duct	0.7	0.7	0.8	1.4*	1.1*	2.1*
Gallbladder	0.6	-0.8	1.1	-0.9	-2.6*	-0.2
Other biliary	1.0	0.8	1.1	1.9	1.6	2.3
Pancreas	0.1	-0.1	0.3	-0.3*	-0.2	-0.4
Retroperitoneum	-1.6	-0.8	-1.7	7.1*	-	-
Peritoneum, omentum & mesentery	0.5	2.9	0.4	5.6*	-	6.4*
Other digestive system	3.2*	0.7	4.9*	1.9	1.7	1.8
Respiratory System:	-2.7*	-3.4*	-2.0*	-3.5*	-4.2*	-2.8*
Nose, nasal cavity & middle ear	0.1	-0.1	0.9	-1.5	-1.5	-0.9
Larynx	-2.9*	-3.1*	-3.1*	-2.9*	-3.2*	-2.2
Lung & bronchus	-2.7*	-3.5*	-2.0*	-3.6*	-4.3*	-2.9*
Pleura	-6.8	-	-	-	-	-
Trachea & other respiratory organs	-2.8	-4.8	-0.5	2.1	-	-
Bones & joints	0.4	1.2	-0.3	0.6	1.0	0.8
Soft tissue (including heart)	0.5	1.3	-0.2	0.4	0.4	0.5
Skin (excl. basal & squamous):	-0.6	-0.9	-0.2	-2.1*	-3.0*	-0.9
Melanoma of the skin	-1.1	0.1	-1.9	-3.3*	-3.4	-3.1
Other non-epithelial skin	-0.3	-1.5	1.3	-1.1	-2.8*	2.4
Breast	0.2	1.7	0.3	-1.7*	-0.9	-1.6*
Breast (*in situ*)	0.6	-0.4	0.7	-	-	-

The APC is the Annual Percent Change over the time interval.
Trends are based on rates age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

[a] SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

[b] US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.

* The APC is significantly different from zero (p<.05).

\- Statistic could not be calculated. Trend based on less than 10 cases for at least one year within the time interval.

Table 1.9 - continued
SEER Incidence and U.S. Mortality Trends by Primary Cancer Site and Sex
Blacks, 2008-2017

Site	Incidence[a] Total APC	Incidence[a] Males APC	Incidence[a] Females APC	US Mortality[b] Total APC	US Mortality[b] Males APC	US Mortality[b] Females APC
Female Genital System:	0.2	-	0.4	-0.4	-	-0.2
Cervix uteri	-2.6*	-	-2.4*	-3.0*	-	-2.9*
Corpus uteri	1.4*	-	1.6*	4.3*	-	4.5*
Uterus, NOS	2.6*	-	2.8*	0.6	-	0.9
Ovary[c]	-1.7*	-	-1.4*	-2.1*	-	-1.9*
Vagina	-0.2	-	0.0	-1.3	-	-1.2
Vulva	0.5	-	0.8	-1.8	-	-1.6
Other female genital system	8.2*	-	8.5*	6.2*	-	6.4*
Male Genital System:	-4.1*	-4.4*	-	-3.0*	-3.6*	-
Prostate	-4.2*	-4.5*	-	-3.0*	-3.7*	-
Testis	2.6*	2.4*	-	2.0	2.3	-
Penis	-1.4	-1.9	-	-3.6	-3.7	-
Other male genital system	1.1	0.6	-	-	-	-
Urinary System:	-0.3	-0.5*	-0.2	-0.8*	-0.3	-1.6*
Urinary bladder	-0.8*	-1.1*	-0.4	-0.3	0.0	-0.9
Kidney & renal pelvis	0.1	0.1	-0.2	-1.3*	-0.8	-2.2*
Ureter	-1.7	-5.6*	1.8	-3.8	-	-
Other urinary system	1.5	-1.7	4.7	1.4	-	-2.0
Eye & Orbit	-0.5	-1.7	0.4	-	-	-
Brain & Nervous System:[d]	-1.2*	-1.1	-1.6	0.7	0.5	0.8
Brain	-1.2	-1.1	-1.5	-	-	-
Cranial nerves & other nervous system	-1.9	-1.5	-2.0	-	-	-
Endocrine System:	1.1	0.4	1.4	-0.7	-0.8	-0.7
Thyroid	1.3	0.7	1.5	-0.6	0.0	-1.1
Other endocrine & thymus	-0.2	-0.6	-0.2	-0.8	-1.4	0.1
Lymphoma:	-0.7*	-1.1*	-0.2	-1.8*	-1.8*	-1.9*
Hodgkin lymphoma	-1.7*	-1.9	-1.3*	-5.0*	-4.3*	-5.3*
Non-Hodgkin lymphoma	-0.5*	-1.0*	0.0	-1.6*	-1.6*	-1.6*
Myeloma	0.3	0.2	0.3	-0.4	-0.6	-0.3
Leukemia:	0.3	-0.1	0.7	-2.0*	-2.7*	-1.4*
Lymphocytic:	-0.5	-1.2	0.4	-3.0*	-4.2*	-1.4
Acute lymphocytic	0.2	-0.9	1.8	-0.1	-1.2	1.3
Chronic lymphocytic	-0.4	-0.7	-0.3	-4.0*	-4.8*	-2.9*
Other lymphocytic	-4.0*	-9.4*	4.8	0.6	-	-
Myeloid & Monocytic:	1.5*	1.4	1.4	0.3	-0.3	0.8
Acute myeloid	2.0*	2.0	1.8	0.2	-0.5	0.8
Chronic myeloid	0.9	0.9	0.9	-1.1	-2.3	-0.2
Acute monocytic	-0.5	0.8	-1.9	-	-	-
Other myeloid & monocytic	-2.7	-3.5	-1.4	3.7*	5.0*	2.3
Other leukemia:	-3.7*	-3.9	-3.3	-5.0*	-5.0*	-5.3*
Other acute leukemia	1.8	1.4	3.6	-7.0*	-7.4*	-6.8*
Aleukemic, subleukemic & NOS	-5.6*	-6.5*	-4.8	-4.2*	-4.0*	-4.6*
Kaposi Sarcoma[e]	-3.0*	-3.0	-4.0	-	-	-
Mesothelioma[e]	-1.4	-1.7	-0.1	-	-	-
Ill-defined & unspecified	-2.7*	-2.7*	-2.6*	-2.4*	-3.0*	-1.8*

The APC is the Annual Percent Change over the time interval.
Trends are based on rates age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

[a] SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

[b] US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.

[c] Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

[d] Due to coding changes, Brain & Nervous System mortality are no longer shown separately.

[e] Trend not shown for mortality. Category did not exist in mortality coding until 1999.

* The APC is significantly different from zero (p<.05).

\- Statistic could not be calculated. Trend based on less than 10 cases for at least one year within the time interval.

Table 1.10

Age Distribution (%) of Incidence Cases by Site, 2013-2017

All Races, Both Sexes

Site	Age at Diagnosis <20	20-34	35-44	45-54	55-64	65-74	75-84	85+	All Ages	Cases
All Sites	1.0	2.8	4.8	12.5	24.4	28.2	18.2	8.0	100.0%	2,931,345
Oral Cavity & Pharynx:	0.4	1.9	4.1	16.0	31.1	26.0	14.1	6.3	100.0%	77,344
Lip	0.1	1.3	3.1	12.6	22.3	25.1	21.8	13.7	100.0%	4,104
Tongue	0.1	1.7	3.7	15.6	33.3	27.8	13.2	4.6	100.0%	24,075
Salivary gland	1.8	6.0	6.8	12.1	19.0	24.1	18.5	11.6	100.0%	8,415
Floor of mouth	0.1	0.3	2.3	15.7	34.9	28.0	14.3	4.4	100.0%	3,182
Gum & other oral cavity	0.6	1.9	3.5	11.2	23.6	25.9	20.6	12.7	100.0%	10,250
Nasopharynx	2.2	5.8	11.7	22.6	28.1	18.7	8.2	2.7	100.0%	4,041
Tonsil	0.0	0.3	3.7	23.3	40.1	23.6	7.4	1.5	100.0%	14,234
Oropharynx	0.1	0.5	2.4	15.5	37.4	28.8	11.7	3.6	100.0%	3,322
Hypopharynx	0.0	0.3	1.3	12.0	33.6	30.9	16.7	5.2	100.0%	3,861
Other oral cavity & pharynx	0.1	0.3	2.6	14.2	31.9	28.9	14.5	7.5	100.0%	1,860
Digestive System:	0.3	1.3	3.5	12.4	24.2	26.9	20.5	10.8	100.0%	539,559
Esophagus	0.0	0.4	1.8	9.3	26.9	32.1	20.7	8.8	100.0%	28,893
Stomach	0.1	1.6	4.4	11.4	22.1	26.8	22.3	11.3	100.0%	48,207
Small intestine	0.1	1.7	5.1	14.0	24.6	28.6	18.7	7.2	100.0%	15,942
Colon & Rectum:	0.3	1.8	4.5	15.1	22.4	24.6	19.9	11.5	100.0%	251,894
Colon	0.4	1.7	4.0	12.7	20.4	25.2	22.2	13.4	100.0%	175,976
Rectum	0.0	1.9	5.8	20.8	27.0	23.0	14.6	7.0	100.0%	75,918
Colon & Rectum (Male)	0.2	1.7	4.5	15.8	24.7	26.0	18.6	8.5	100.0%	131,263
Colon & Rectum (Female)	0.3	1.9	4.6	14.4	19.8	23.0	21.4	14.7	100.0%	120,631
Anus, anal canal & anorectum	0.0	1.1	4.6	19.3	31.7	24.2	13.1	6.1	100.0%	13,108
Liver & intrahepatic bile duct	0.7	0.7	1.7	9.7	35.3	29.4	16.3	6.2	100.0%	62,676
Gallbladder	0.0	0.5	2.1	8.5	21.0	28.5	25.7	13.6	100.0%	8,041
Other biliary	0.0	0.6	2.2	8.1	20.4	28.9	26.0	13.9	100.0%	12,466
Pancreas	0.1	0.6	1.8	8.1	21.8	30.0	24.3	13.3	100.0%	87,504
Retroperitoneum	7.7	4.1	5.4	14.9	22.8	25.0	14.9	5.2	100.0%	2,444
Peritoneum, omentum & mesentery	0.4	0.8	2.4	9.1	23.3	34.9	21.1	8.1	100.0%	3,265
Other digestive system	0.1	0.8	2.4	8.6	20.6	26.4	25.5	15.6	100.0%	5,119
Respiratory System:	0.1	0.3	1.1	7.0	22.3	33.8	26.0	9.5	100.0%	386,449
Nose, nasal cavity & middle ear	1.6	3.7	6.6	13.9	23.6	24.3	17.0	9.3	100.0%	4,483
Larynx	0.0	0.4	1.8	12.6	31.2	31.0	17.2	5.7	100.0%	19,735
Lung & bronchus	0.0	0.2	0.9	6.6	21.8	34.1	26.6	9.7	100.0%	360,979
Lung & bronchus (Male)	0.0	0.2	0.9	6.2	22.5	34.9	26.3	8.9	100.0%	182,843
Lung & bronchus (Female)	0.0	0.3	1.0	6.9	21.0	33.3	26.9	10.5	100.0%	178,136
Pleura	3.8	2.6	1.9	7.1	16.0	24.4	28.8	15.4	100.0%	156
Trachea & other respiratory organs	14.7	20.7	8.3	9.9	14.9	15.4	11.2	4.8	100.0%	1,096
Bones & joints	25.6	15.1	8.9	11.8	13.6	13.0	7.8	4.1	100.0%	5,862
Soft tissue (including heart)	7.7	9.1	8.2	13.1	19.1	19.9	14.9	7.9	100.0%	22,087
Skin (excl. basal & squamous):	0.4	5.1	6.9	13.4	21.9	24.6	18.1	9.5	100.0%	160,833
Melanoma of the skin	0.4	5.1	7.1	13.8	22.6	24.8	17.5	8.7	100.0%	147,565
Other non-epithelial skin	1.1	4.8	5.2	8.3	14.6	23.2	24.7	17.9	100.0%	13,268
Breast (Female)	0.0	1.9	8.3	19.7	25.7	25.5	13.6	5.4	100.0%	446,594
Breast (Female -*in situ*)	0.0	0.8	9.4	26.4	27.7	24.4	9.5	1.7	100.0%	112,766

Source: SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).
Percents may not sum to 100 due to rounding.

Table 1.10 - continued

Age Distribution (%) of Incidence Cases by Site, 2013-2017

All Races, Both Sexes

Site	Age at Diagnosis <20	20-34	35-44	45-54	55-64	65-74	75-84	85+	All Ages	Cases
Female Genital System:	0.3	3.6	7.4	16.3	29.0	25.2	12.7	5.4	100.0%	181,333
Cervix uteri	0.1	13.8	22.8	22.5	19.7	12.0	6.4	2.7	100.0%	22,834
Corpus uteri	0.0	1.5	4.9	15.2	34.3	28.9	11.6	3.5	100.0%	98,518
Uterus, NOS	0.2	1.9	5.1	14.5	22.8	24.4	17.1	14.0	100.0%	3,112
Ovary[a]	1.3	4.0	6.5	17.1	24.7	23.1	15.5	7.8	100.0%	39,263
Vagina	0.8	1.1	4.5	12.5	22.6	26.2	20.6	11.7	100.0%	2,397
Vulva	0.1	1.5	4.6	13.7	20.2	23.5	21.1	15.4	100.0%	9,193
Other female genital system	0.4	3.1	3.4	12.3	25.4	30.0	17.6	7.9	100.0%	6,016
Male Genital System:	0.2	2.3	1.5	8.4	31.1	38.0	14.5	3.9	100.0%	375,178
Prostate	0.0	0.0	0.4	8.1	32.4	39.9	15.1	4.1	100.0%	354,648
Testis	5.0	51.0	22.9	12.7	5.8	1.8	0.6	0.2	100.0%	17,083
Penis	0.0	1.5	4.6	11.3	20.4	26.6	23.3	12.3	100.0%	2,653
Other male genital system	1.8	3.1	3.7	12.7	21.7	29.3	19.3	8.4	100.0%	794
Urinary System:	0.5	1.1	3.2	9.8	21.8	29.7	23.0	11.0	100.0%	246,116
Urinary bladder	0.0	0.4	1.2	5.8	18.0	30.9	28.5	15.1	100.0%	131,859
Kidney & renal pelvis	1.0	1.9	5.8	15.0	26.7	28.2	15.8	5.6	100.0%	108,080
Ureter	0.1	0.1	0.4	3.6	14.1	29.9	34.5	17.3	100.0%	3,494
Other urinary system	0.1	0.4	1.3	5.8	17.1	28.4	28.9	17.9	100.0%	2,683
Eye & Orbit	10.6	4.1	5.7	12.7	22.9	23.8	14.5	5.6	100.0%	5,523
Brain & Nervous System:	12.1	8.7	7.5	12.8	20.4	20.2	13.0	5.1	100.0%	40,128
Brain	11.1	8.6	7.4	12.8	20.7	20.8	13.5	5.2	100.0%	37,684
Cranial nerves & other nervous system	27.1	10.6	9.7	13.5	16.0	12.5	6.8	3.8	100.0%	2,444
Endocrine System:	2.7	15.4	17.7	21.7	21.3	14.3	5.6	1.3	100.0%	101,447
Thyroid	1.8	15.9	18.2	22.2	21.3	14.1	5.3	1.2	100.0%	96,401
Other endocrine & thymus	18.8	6.9	7.7	13.4	21.1	18.6	10.5	3.1	100.0%	5,046
Lymphoma:	2.8	6.6	5.9	11.6	20.3	24.7	19.4	8.7	100.0%	143,522
Hodgkin lymphoma	12.0	31.0	13.6	12.6	12.3	10.4	6.2	2.0	100.0%	15,752
Non-Hodgkin lymphoma	1.6	3.6	5.0	11.5	21.2	26.5	21.0	9.6	100.0%	127,770
Myeloma	0.0	0.5	2.7	10.5	22.9	30.8	23.3	9.4	100.0%	46,834
Leukemia:	7.8	4.4	4.3	9.5	18.2	24.3	20.4	11.1	100.0%	90,658
Lymphocytic:	11.6	2.7	2.9	8.9	19.6	24.8	19.1	10.5	100.0%	45,808
Acute lymphocytic	53.4	10.9	6.0	7.4	9.0	7.4	4.3	1.8	100.0%	9,882
Chronic lymphocytic	0.0	0.3	1.5	8.6	22.6	30.1	23.8	13.1	100.0%	33,347
Other lymphocytic	0.9	2.0	8.9	18.3	22.5	22.2	15.3	10.0	100.0%	2,579
Myeloid & Monocytic:	3.8	6.3	5.8	10.3	17.2	24.3	21.7	10.7	100.0%	41,727
Acute myeloid	4.5	5.6	5.1	9.2	16.7	25.5	22.5	10.9	100.0%	27,336
Chronic myeloid	2.1	7.9	7.6	13.0	18.5	21.6	19.5	9.8	100.0%	12,306
Acute monocytic	6.0	4.9	6.0	10.0	17.0	22.8	23.5	9.8	100.0%	1,193
Other myeloid & monocytic	3.7	6.3	4.4	8.2	14.2	23.7	24.2	15.4	100.0%	892
Other leukemia:	5.7	4.8	4.4	7.8	10.9	17.6	23.0	25.8	100.0%	3,123
Other acute leukemia	8.5	5.6	3.5	5.9	10.6	19.3	23.6	22.9	100.0%	1,363
Aleukemic, subleukemic & NOS	3.6	4.1	5.0	9.3	11.0	16.3	22.5	28.1	100.0%	1,760
Kaposi Sarcoma	0.1	22.0	16.8	20.4	13.6	9.7	10.2	7.2	100.0%	2,913
Mesothelioma	0.0	1.0	2.0	5.0	13.5	29.2	32.7	16.5	100.0%	5,737
Ill-defined & unspecified	0.4	0.9	1.9	7.0	18.0	24.6	25.4	21.7	100.0%	49,523

Source: SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).
Percents may not sum to 100 due to rounding.

[a] Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

Table 1.11
Median Age of Cancer Patients at Diagnosis[a], 2013-2017
By Primary Cancer Site, Race and Sex

Site	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
All Sites	66.0	67.0	65.0	67.0	67.0	66.0	63.0	64.0	63.0
Oral Cavity & Pharynx:	63.0	63.0	65.0	64.0	63.0	66.0	60.0	60.0	60.0
Lip	69.0	68.0	70.0	69.0	69.0	71.0	59.0	59.0	54.5
Tongue	63.0	63.0	64.0	64.0	63.0	65.0	61.0	62.0	60.0
Salivary gland	66.0	68.0	63.0	68.0	70.0	65.0	58.0	58.0	57.5
Floor of mouth	64.0	63.0	65.0	64.0	63.0	66.0	61.0	62.0	61.0
Gum & other oral cavity	68.0	66.0	71.0	69.0	67.0	72.0	61.0	61.0	63.0
Nasopharynx	57.0	57.0	58.0	61.0	60.0	62.0	56.0	56.0	54.5
Tonsil	60.0	60.0	62.0	60.0	60.0	62.0	59.0	59.0	60.0
Oropharynx	63.0	63.0	64.0	63.0	63.0	64.0	61.0	61.0	62.0
Hypopharynx	65.0	65.0	65.0	66.0	66.0	66.0	62.0	62.0	61.0
Other oral cavity & pharynx	65.0	64.0	67.0	65.0	64.0	68.0	61.5	62.0	61.0
Digestive System:	67.0	66.0	69.0	68.0	67.0	70.0	64.0	63.0	65.0
Esophagus	68.0	67.0	70.0	68.0	68.0	71.0	65.0	65.0	65.0
Stomach	68.0	68.0	69.0	69.0	68.0	69.0	67.0	66.0	68.0
Small intestine	66.0	66.0	66.0	67.0	66.0	67.0	64.0	63.0	64.0
Colon & Rectum:	67.0	66.0	68.0	68.0	66.0	69.0	63.0	63.0	64.0
Colon	69.0	67.0	70.0	70.0	68.0	72.0	65.0	64.0	66.0
Rectum	62.0	62.0	63.0	63.0	63.0	64.0	60.0	60.0	60.0
Anus, anal canal & anorectum	62.0	61.0	63.0	63.0	62.0	63.0	56.0	53.0	60.0
Liver & intrahepatic bile duct	65.0	64.0	68.0	65.0	64.0	69.0	63.0	63.0	64.0
Gallbladder	71.0	71.0	71.0	72.0	71.0	72.0	68.0	68.0	67.0
Other biliary	71.0	70.0	72.0	72.0	71.0	73.0	67.0	66.0	68.0
Pancreas	70.0	69.0	72.0	71.0	69.0	73.0	67.0	65.0	69.0
Retroperitoneum	63.0	63.0	62.0	64.0	64.0	64.0	58.0	58.5	57.5
Peritoneum, omentum & mesentery	68.0	66.5	68.0	69.0	68.0	69.0	65.0	59.0	65.0
Other digestive system	71.0	70.0	72.0	72.0	71.0	73.0	66.0	66.0	67.0
Respiratory System:	70.0	70.0	71.0	71.0	70.0	71.0	67.0	66.0	67.0
Nose, nasal cavity & middle ear	65.0	64.0	66.0	66.0	65.0	67.0	59.0	57.0	61.0
Larynx	66.0	66.0	65.0	66.0	66.0	65.0	64.0	64.0	63.0
Lung & bronchus	71.0	70.0	71.0	71.0	71.0	71.0	67.0	67.0	68.0
Pleura	73.0	73.0	73.0	74.0	74.0	73.0	-	-	-
Trachea & other respiratory organs	52.0	45.0	61.0	54.0	48.0	62.0	51.5	48.0	56.5
Bones & joints	45.0	45.0	45.0	47.0	47.0	47.0	35.0	33.0	36.0
Soft tissue (including heart)	61.0	62.0	60.0	62.0	63.0	61.0	54.0	53.0	55.0
Skin (excl. basal & squamous):	65.0	67.0	62.0	66.0	68.0	62.0	58.0	58.0	58.0
Melanoma of the skin	65.0	67.0	61.0	65.0	67.0	61.0	65.0	64.0	66.0
Other non-epithelial skin	71.0	72.0	69.0	73.0	74.0	72.0	52.0	51.0	52.5
Breast	63.0	68.0	62.0	63.0	69.0	63.0	60.0	64.0	60.0
Breast (*in situ*)	59.0	63.5	59.0	60.0	64.0	60.0	60.0	61.0	60.0

[a] SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

\- Statistic could not be calculated. Less than 16 cases were diagnosed during the time interval.

Table 1.11 - continued
Median Age of Cancer Patients at Diagnosis[a], 2013-2017
By Primary Cancer Site, Race and Sex

Site	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
Female Genital System:	62.0	-	62.0	63.0	-	63.0	62.0	-	62.0
Cervix uteri	50.0	-	50.0	50.0	-	50.0	53.0	-	53.0
Corpus uteri	63.0	-	63.0	63.0	-	63.0	64.0	-	64.0
Uterus, NOS	66.0	-	66.0	67.5	-	67.5	65.0	-	65.0
Ovary[b]	63.0	-	63.0	64.0	-	64.0	61.0	-	61.0
Vagina	67.0	-	67.0	68.0	-	68.0	64.0	-	64.0
Vulva	69.0	-	69.0	70.0	-	70.0	60.0	-	60.0
Other female genital system	66.0	-	66.0	67.0	-	67.0	63.0	-	63.0
Male Genital System:	66.0	66.0	-	66.0	66.0	-	64.0	64.0	-
Prostate	66.0	66.0	-	67.0	67.0	-	64.0	64.0	-
Testis	33.0	33.0	-	33.0	33.0	-	35.0	35.0	-
Penis	69.0	69.0	-	70.0	70.0	-	65.0	65.0	-
Other male genital system	67.0	67.0	-	68.0	68.0	-	56.5	56.5	-
Urinary System:	69.0	69.0	69.0	70.0	70.0	69.0	65.0	64.0	66.0
Urinary bladder	73.0	72.0	73.0	73.0	73.0	73.0	70.0	69.0	73.0
Kidney & renal pelvis	64.0	64.0	65.0	65.0	65.0	66.0	62.0	61.0	63.0
Ureter	75.0	75.0	76.0	76.0	75.0	77.0	72.0	70.0	73.0
Other urinary system	73.0	74.0	73.0	75.0	74.0	75.0	67.0	67.0	68.5
Eye & Orbit	62.0	62.0	62.0	63.0	63.0	62.0	45.0	45.0	40.5
Brain & Nervous System:	59.0	59.0	60.0	60.0	60.0	60.0	52.0	52.0	53.0
Brain	60.0	59.0	60.0	61.0	60.0	61.0	53.0	52.0	54.0
Cranial nerves & other nervous system	47.0	44.0	49.0	47.0	44.0	49.0	47.0	46.0	47.5
Endocrine System:	51.0	55.0	50.0	52.0	56.0	50.0	53.0	55.0	52.0
Thyroid	51.0	55.0	50.0	51.0	56.0	50.0	52.0	56.0	52.0
Other endocrine & thymus	56.0	54.0	58.0	57.0	55.0	58.0	55.0	49.5	60.0
Lymphoma:	66.0	65.0	66.0	67.0	66.0	67.0	58.0	56.0	59.0
Hodgkin lymphoma	39.5	42.0	37.0	40.0	43.0	37.0	39.0	40.0	38.0
Non-Hodgkin lymphoma	67.0	66.0	68.0	68.0	67.0	69.0	60.0	59.0	62.0
Myeloma	69.0	68.0	69.0	70.0	69.0	70.0	66.0	66.0	67.0
Leukemia:	67.0	67.0	67.0	68.0	67.0	68.0	62.0	62.0	62.0
Lymphocytic:	66.0	66.0	67.0	67.0	66.0	68.0	63.0	63.0	64.0
Acute lymphocytic	17.0	17.0	16.0	17.0	17.0	17.0	16.0	17.0	16.0
Chronic lymphocytic	70.0	69.0	71.0	70.0	70.0	72.0	67.0	66.0	69.0
Other lymphocytic	64.0	62.0	67.0	64.0	63.0	68.0	64.0	59.5	69.0
Myeloid & Monocytic:	67.0	68.0	67.0	68.0	69.0	68.0	61.0	61.0	61.0
Acute myeloid	68.0	69.0	68.0	69.0	69.0	69.0	62.0	62.0	61.0
Chronic myeloid	65.0	65.0	65.0	66.0	66.0	67.0	58.0	58.0	59.0
Acute monocytic	68.0	69.0	65.0	68.0	69.0	65.0	64.0	65.0	60.5
Other myeloid & monocytic	70.0	70.0	70.0	71.5	71.0	72.0	64.0	63.0	68.0
Other leukemia:	74.0	71.0	77.0	76.0	73.0	79.0	63.0	61.5	64.0
Other acute leukemia	73.0	70.0	76.0	74.0	71.0	77.0	65.5	63.5	66.5
Aleukemic, subleukemic & NOS	75.0	72.0	77.0	78.0	75.5	81.0	62.0	60.5	63.0
Kaposi Sarcoma	50.0	48.0	76.0	55.0	52.0	80.0	37.0	36.0	46.0
Mesothelioma	74.0	75.0	72.0	75.0	75.0	73.0	70.0	71.0	64.0
Ill-defined & unspecified	73.0	71.0	76.0	74.0	72.0	76.0	68.0	66.0	71.0

[a] SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

[b] Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

\- Statistic could not be calculated. Less than 16 cases were diagnosed during the time interval.

Table 1.12

Age Distribution (%) of Deaths by Site, 2013-2017

All Races, Both Sexes

Site	Age at Death <20	20-34	35-44	45-54	55-64	65-74	75-84	85+	All Ages	Deaths
All Sites	0.3	0.8	1.9	7.2	19.4	27.4	25.9	17.1	100.0%	2,969,607
Oral Cavity & Pharynx:	0.1	0.7	1.9	10.7	26.8	27.4	19.5	12.8	100.0%	48,304
Lip	0.3	0.0	1.1	8.1	16.8	20.9	23.5	29.3	100.0%	358
Tongue	0.0	1.1	2.3	10.7	27.2	28.2	19.3	11.1	100.0%	12,485
Salivary gland	0.0	1.0	2.4	7.1	16.7	23.8	25.1	23.8	100.0%	4,816
Floor of mouth	0.0	0.2	0.9	14.3	27.9	25.8	17.7	13.1	100.0%	434
Gum & other oral cavity	0.1	0.5	1.3	7.8	20.9	24.8	22.3	22.3	100.0%	6,892
Nasopharynx	0.5	2.4	5.4	15.4	29.0	24.3	15.7	7.3	100.0%	3,459
Tonsil	0.0	0.1	1.8	15.2	34.9	29.3	13.8	5.0	100.0%	4,884
Oropharynx	0.0	0.3	1.2	11.9	30.9	28.4	18.1	9.1	100.0%	5,294
Hypopharynx	0.0	0.3	0.9	11.0	29.8	30.3	19.2	8.4	100.0%	1,835
Other oral cavity & pharynx	0.0	0.2	0.9	9.8	28.6	29.7	20.3	10.5	100.0%	7,847
Digestive System:	0.0	0.5	1.9	8.1	21.8	27.0	24.3	16.3	100.0%	773,369
Esophagus	0.0	0.3	1.5	8.2	25.0	31.2	22.6	11.3	100.0%	75,615
Stomach	0.0	1.3	3.7	9.7	19.2	24.2	24.7	17.0	100.0%	56,493
Small intestine	0.0	0.7	2.4	7.9	18.8	27.6	26.6	15.9	100.0%	7,338
Colon & Rectum:	0.0	0.7	2.7	9.3	19.0	23.6	24.0	20.7	100.0%	260,693
Colon & Rectum (Male)	0.0	0.8	2.8	10.2	21.5	25.9	23.4	15.5	100.0%	137,311
Colon & Rectum (Female)	0.0	0.7	2.5	8.4	16.2	20.9	24.6	26.6	100.0%	123,382
Anus, anal canal & anorectum	0.0	0.7	3.7	14.6	27.8	25.0	17.2	11.1	100.0%	5,135
Liver & intrahepatic bile duct	0.2	0.4	1.3	8.0	30.6	28.5	20.8	10.2	100.0%	128,163
Gallbladder	0.0	0.2	1.5	6.7	17.4	28.5	28.5	17.3	100.0%	10,925
Other biliary	0.0	0.3	1.4	5.4	17.4	26.7	28.0	20.9	100.0%	8,390
Pancreas	0.0	0.2	1.1	6.5	20.0	29.5	26.8	16.0	100.0%	207,797
Retroperitoneum	0.7	1.7	2.6	9.1	19.3	27.7	24.3	14.6	100.0%	1,250
Peritoneum, omentum & mesentery	0.0	0.4	2.0	6.1	18.2	29.2	29.1	15.1	100.0%	4,817
Other digestive system	0.0	0.6	1.6	6.9	18.2	25.8	26.3	20.6	100.0%	6,753
Respiratory System:	0.0	0.1	0.7	5.9	20.4	32.2	28.0	12.7	100.0%	784,188
Nose, nasal cavity & middle ear	0.5	2.2	4.0	11.6	20.2	24.9	20.9	15.7	100.0%	2,531
Larynx	0.0	0.1	0.8	8.5	27.6	31.1	21.5	10.4	100.0%	18,823
Lung & bronchus	0.0	0.1	0.7	5.8	20.3	32.2	28.2	12.8	100.0%	760,138
Lung & bronchus (Male)	0.0	0.1	0.6	5.6	21.4	33.4	27.7	11.3	100.0%	413,631
Lung & bronchus (Female)	0.0	0.1	0.7	6.0	19.0	30.9	28.9	14.5	100.0%	346,507
Pleura	0.2	0.0	0.8	2.7	11.3	28.9	36.6	19.5	100.0%	1,405
Trachea & other respiratory organs	1.2	3.5	2.8	8.9	20.9	27.5	21.8	13.3	100.0%	1,291
Bones & joints	11.7	12.5	5.2	8.3	13.6	17.7	16.8	14.1	100.0%	7,928
Soft tissue (including heart)	3.4	5.7	6.0	11.5	20.0	22.3	19.5	11.6	100.0%	23,895
Skin (excl. basal & squamous):	0.1	1.4	3.2	8.5	17.9	23.5	24.4	20.9	100.0%	62,987
Melanoma of the skin	0.1	1.9	4.2	9.7	19.1	24.2	24.0	16.8	100.0%	43,847
Other non-epithelial skin	0.0	0.5	1.0	5.6	15.3	21.8	25.4	30.3	100.0%	19,140
Breast (Female)	0.0	0.9	4.6	12.5	21.7	23.4	19.7	17.2	100.0%	207,081

Source: US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.
Percents may not sum to 100 due to rounding.

Table 1.12 - continued

Age Distribution (%) of Deaths by Site, 2013-2017

All Races, Both Sexes

Site	Age at Death <20	20-34	35-44	45-54	55-64	65-74	75-84	85+	All Ages	Deaths
Female Genital System:	0.0	1.2	3.5	10.2	21.9	27.7	22.0	13.4	100.0%	154,096
Cervix uteri	0.0	5.3	13.2	21.9	24.2	18.0	11.0	6.3	100.0%	20,902
Corpus uteri	0.0	0.4	1.7	6.7	23.1	33.7	22.6	11.8	100.0%	23,785
Uterus, NOS	0.0	0.4	1.9	7.8	23.0	30.6	22.0	14.3	100.0%	27,090
Ovary	0.1	0.7	2.2	9.3	21.2	28.0	24.4	14.0	100.0%	70,807
Vagina	0.0	0.5	1.9	6.9	15.4	23.6	26.6	25.2	100.0%	2,102
Vulva	0.0	0.5	1.5	6.5	14.1	20.3	26.5	30.5	100.0%	5,698
Other female genital system	0.1	1.1	2.0	8.8	21.1	29.6	24.3	13.1	100.0%	3,712
Male Genital System:	0.0	0.5	0.3	1.7	9.4	22.5	32.8	32.6	100.0%	149,646
Prostate	0.0	0.0	0.1	1.4	9.3	22.7	33.3	33.2	100.0%	145,728
Testis	1.8	34.7	17.7	17.8	12.3	7.8	4.3	3.5	100.0%	2,024
Penis	0.0	1.3	3.5	9.8	17.4	25.0	25.1	17.8	100.0%	1,549
Other male genital system	0.0	0.9	1.7	7.8	14.5	28.7	27.8	18.6	100.0%	345
Urinary System:	0.1	0.3	1.0	5.1	15.4	24.9	28.7	24.5	100.0%	155,567
Urinary bladder	0.0	0.1	0.5	3.0	11.2	22.1	31.7	31.4	100.0%	81,089
Kidney & renal pelvis	0.3	0.6	1.7	7.6	20.6	28.2	24.8	16.3	100.0%	70,072
Ureter	0.0	0.0	0.4	1.8	9.3	22.9	36.2	29.3	100.0%	2,083
Other urinary system	0.0	0.3	1.1	4.1	12.7	24.3	31.5	26.1	100.0%	2,323
Eye & Orbit	2.1	1.5	2.8	8.2	20.6	27.6	22.2	14.9	100.0%	1,659
Brain & Nervous System:	3.3	3.3	5.1	11.9	23.9	26.4	18.3	7.8	100.0%	81,246
Endocrine System:	4.9	2.1	3.3	8.7	18.3	24.2	23.3	15.2	100.0%	14,536
Thyroid	0.1	0.7	1.8	7.3	17.6	26.3	27.5	18.8	100.0%	9,510
Other endocrine & thymus	14.0	4.7	6.0	11.4	19.6	20.3	15.3	8.6	100.0%	5,026
Lymphoma:	0.3	1.6	1.9	5.3	13.7	24.2	30.4	22.6	100.0%	106,677
Hodgkin lymphoma	0.9	9.1	5.9	10.6	15.4	21.9	22.8	13.4	100.0%	5,296
Non-Hodgkin lymphoma	0.3	1.2	1.7	5.1	13.6	24.3	30.8	23.0	100.0%	101,381
Myeloma	0.0	0.1	0.8	4.8	15.0	28.2	32.1	19.2	100.0%	60,732
Leukemia:	2.1	2.6	2.4	5.2	12.4	23.5	29.7	22.2	100.0%	116,774
Lymphocytic:	3.3	3.5	2.3	4.1	10.2	18.8	28.0	30.0	100.0%	31,403
Acute lymphocytic	13.5	14.1	8.5	10.5	15.1	16.5	13.6	8.2	100.0%	7,474
Chronic lymphocytic	0.0	0.1	0.3	1.8	8.5	19.3	32.8	37.2	100.0%	21,863
Other lymphocytic	0.6	0.9	1.3	4.0	10.5	20.9	29.8	32.1	100.0%	2,066
Myeloid & Monocytic:	1.5	2.3	2.6	6.0	14.4	27.0	30.0	16.1	100.0%	61,138
Acute myeloid	1.7	2.4	2.6	6.1	15.1	28.1	29.6	14.4	100.0%	50,698
Chronic myeloid	0.4	2.6	3.5	6.7	11.3	18.5	30.4	26.6	100.0%	5,468
Acute monocytic	2.2	1.0	1.8	5.1	14.0	23.1	30.2	22.5	100.0%	493
Other myeloid & monocytic	0.6	1.0	1.6	3.8	10.6	25.7	34.7	22.1	100.0%	4,479
Other leukemia:	1.9	2.0	1.8	4.5	10.3	20.9	31.2	27.4	100.0%	24,233
Other acute leukemia	1.3	2.2	2.0	4.5	9.5	21.3	32.3	26.8	100.0%	7,907
Aleukemic, subleukemic & NOS	2.1	1.9	1.8	4.5	10.7	20.7	30.7	27.6	100.0%	16,326
Ill-defined & unspecified	0.2	0.7	1.5	6.3	17.9	25.9	26.5	20.9	100.0%	218,556

Source: US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.
Percents may not sum to 100 due to rounding.

Table 1.13
Median Age of Cancer Patients at Death[a], 2013-2017
By Primary Cancer Site, Race and Sex

Site	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
All Sites	72.0	72.0	72.0	73.0	72.0	73.0	68.0	67.0	68.0
Oral Cavity & Pharynx:	68.0	66.0	72.0	68.0	67.0	73.0	63.0	63.0	64.0
Lip	76.0	72.0	83.5	77.0	73.0	83.0	-	-	-
Tongue	67.0	66.0	71.0	68.0	66.0	71.0	63.0	63.0	63.0
Salivary gland	74.0	74.0	74.0	75.0	75.0	76.0	64.0	63.5	65.0
Floor of mouth	67.0	65.0	73.0	67.0	65.0	74.0	66.0	68.0	-
Gum & other oral cavity	72.0	68.0	80.0	73.0	69.0	80.0	65.0	64.0	69.0
Nasopharynx	64.0	63.0	66.0	66.0	64.0	69.0	61.0	60.0	64.0
Tonsil	64.0	63.0	67.0	64.0	64.0	69.0	62.0	62.0	62.0
Oropharynx	66.0	65.0	71.0	67.0	66.0	72.0	63.0	63.0	64.0
Hypopharynx	67.0	67.0	68.0	68.0	67.0	70.0	64.0	64.0	60.0
Other oral cavity & pharynx	68.0	67.0	70.0	68.0	68.0	71.0	65.0	64.0	66.0
Digestive System:	71.0	69.0	74.0	72.0	70.0	75.0	67.0	65.0	69.0
Esophagus	69.0	68.0	73.0	69.0	69.0	74.0	65.0	65.0	67.0
Stomach	71.0	70.0	73.0	72.0	71.0	74.0	69.0	67.0	72.0
Small intestine	72.0	71.0	73.0	73.0	72.0	74.0	67.0	67.0	66.0
Colon & Rectum	72.0	70.0	75.0	73.0	71.0	76.0	67.0	66.0	69.0
Anus, anal canal & anorectum	66.0	64.0	67.0	66.0	65.0	67.0	60.0	58.0	64.0
Liver & intrahepatic bile duct	67.0	66.0	72.0	68.0	66.0	73.0	64.0	63.0	66.0
Gallbladder	73.0	72.0	73.0	74.0	73.0	74.0	69.0	70.0	69.0
Other biliary	74.0	73.0	76.0	75.0	73.0	76.0	70.0	68.0	71.0
Pancreas	72.0	70.0	74.0	73.0	71.0	75.0	68.0	66.0	71.0
Retroperitoneum	71.0	70.0	71.0	71.0	71.0	72.0	70.0	69.5	70.0
Peritoneum, omentum & mesentery	73.0	70.0	73.0	73.0	70.0	74.0	70.0	65.0	70.0
Other digestive system	73.0	71.0	77.0	74.0	71.0	77.0	70.0	68.0	73.5
Respiratory System:	72.0	71.0	72.0	72.0	72.0	73.0	68.0	68.0	69.0
Nose, nasal cavity & middle ear	69.0	67.0	73.0	70.0	67.0	74.0	66.0	62.0	72.0
Larynx	68.0	68.0	69.0	69.0	69.0	69.0	66.0	66.0	67.0
Lung & bronchus	72.0	71.0	73.0	72.0	72.0	73.0	68.0	68.0	69.0
Pleura	76.0	76.0	77.0	77.0	77.0	77.0	70.0	70.0	70.5
Trachea & other respiratory organs	69.0	67.0	73.0	70.0	67.0	73.0	65.0	64.0	72.5
Bones & joints	63.0	61.0	67.0	65.0	63.0	68.0	56.0	56.0	57.0
Soft tissue (including heart)	66.0	66.0	66.0	67.0	68.0	67.0	59.0	57.0	60.0
Skin (excl. basal & squamous):	73.0	72.0	74.0	73.0	72.0	74.0	65.0	63.0	68.0
Melanoma of the skin	71.0	71.0	71.0	71.0	71.0	71.0	68.0	66.0	71.0
Other non-epithelial skin	77.0	75.0	82.0	78.0	76.0	82.0	63.0	62.0	65.0
Breast	69.0	70.0	69.0	70.0	71.0	70.0	63.0	67.0	63.0

[a] US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.

\- Statistic could not be calculated. Less than 16 deaths occurred during the time interval.

Table 1.13 - continued
Median Age of Cancer Patients at Death[a], 2013-2017
By Primary Cancer Site, Race and Sex

Site	All Races			Whites			Blacks		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
Female Genital System:	69.0	-	69.0	70.0	-	70.0	66.0	-	66.0
Cervix uteri	58.0	-	58.0	58.0	-	58.0	59.0	-	59.0
Corpus uteri	70.0	-	70.0	70.0	-	70.0	68.0	-	68.0
Uterus, NOS	70.0	-	70.0	71.0	-	71.0	67.0	-	67.0
Ovary	70.0	-	70.0	71.0	-	71.0	67.0	-	67.0
Vagina	75.0	-	75.0	76.0	-	76.0	71.0	-	71.0
Vulva	78.0	-	78.0	78.0	-	78.0	67.0	-	67.0
Other female genital system	70.0	-	70.0	71.0	-	71.0	66.0	-	66.0
Male Genital System:	80.0	80.0	-	80.0	80.0	-	76.0	76.0	-
Prostate	80.0	80.0	-	81.0	81.0	-	76.0	76.0	-
Testis	42.0	42.0	-	42.0	42.0	-	44.0	44.0	-
Penis	72.0	72.0	-	72.0	72.0	-	68.0	68.0	-
Other male genital system	73.0	73.0	-	75.0	75.0	-	65.0	65.0	-
Urinary System:	76.0	75.0	78.0	76.0	75.0	78.0	71.0	69.0	74.0
Urinary bladder	79.0	79.0	80.0	79.0	79.0	81.0	74.0	73.0	76.0
Kidney & renal pelvis	71.0	70.0	74.0	72.0	70.0	75.0	67.0	66.0	71.0
Ureter	79.0	78.0	80.0	80.0	79.0	80.0	74.0	73.5	74.0
Other urinary system	77.0	77.0	78.0	78.0	77.0	80.0	71.0	72.0	70.0
Eye & Orbit	70.0	68.0	71.0	70.0	69.0	71.0	65.0	64.0	67.0
Brain & Nervous System	65.0	65.0	66.0	66.0	65.0	67.0	61.0	60.0	62.0
Endocrine System:	70.0	68.0	72.0	70.0	68.0	72.0	66.0	63.0	67.0
Thyroid	73.0	71.0	75.0	74.0	71.0	76.0	70.0	66.0	71.0
Other endocrine & thymus	62.0	61.0	62.0	62.0	62.0	63.5	59.0	59.0	59.0
Lymphoma:	76.0	74.0	78.0	76.0	75.0	78.0	66.0	64.0	69.0
Hodgkin lymphoma	68.0	67.0	71.0	70.0	68.0	72.0	55.0	53.0	57.0
Non-Hodgkin lymphoma	76.0	74.0	78.0	77.0	75.0	79.0	67.0	65.0	69.0
Myeloma	75.0	74.0	76.0	76.0	75.0	77.0	72.0	70.0	73.0
Leukemia:	75.0	74.0	76.0	76.0	75.0	77.0	69.0	68.0	70.0
Lymphocytic:	78.0	76.0	81.0	78.0	77.0	81.0	70.0	69.0	73.0
Acute lymphocytic	57.0	54.0	60.0	58.0	55.0	61.0	50.5	46.0	54.0
Chronic lymphocytic	81.0	79.0	84.0	82.0	79.0	85.0	74.5	72.5	78.0
Other lymphocytic	79.0	77.5	81.0	79.0	78.0	81.0	72.0	69.0	76.5
Myeloid & Monocytic:	73.0	73.0	74.0	74.0	74.0	74.0	67.0	66.0	68.0
Acute myeloid	73.0	73.0	73.0	73.0	73.0	73.0	67.0	67.0	67.0
Chronic myeloid	77.0	75.0	80.0	78.0	76.0	80.0	66.0	62.5	71.0
Acute monocytic	76.0	76.0	74.5	76.0	76.0	76.0	72.0	68.0	-
Other myeloid & monocytic	77.0	76.0	78.0	77.0	76.0	78.0	70.0	68.0	72.0
Other leukemia:	78.0	76.0	79.0	78.0	77.0	80.0	71.0	69.0	73.0
Other acute leukemia	78.0	76.0	79.0	78.0	77.0	80.0	71.5	69.0	74.0
Aleukemic, subleukemic & NOS	77.0	76.0	79.0	78.0	77.0	80.0	70.0	69.0	73.0
Ill-defined & unspecified	74.0	72.0	75.0	74.0	73.0	76.0	68.0	67.0	69.0

[a] US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.
- Statistic could not be calculated. Less than 16 deaths occurred during the time interval.

Table 1.14

Lifetime Risk (Percent) of Being Diagnosed with Cancer by Site and Race/Ethnicity

Both Sexes, 21 SEER Areas, 2015-2017

Site	All Races	Whites	Blacks
	Percent (95% C.I.)	Percent (95% C.I.)	Percent (95% C.I.)
All Sites	39.55 (39.48, 39.62)	39.72 (39.65, 39.80)	36.17 (35.97, 36.38)
Invasive and In Situ	42.05 (41.98, 42.13)	42.24 (42.16, 42.32)	37.58 (37.38, 37.79)
Oral Cavity and Pharynx	1.17 (1.16, 1.18)	1.23 (1.22, 1.24)	0.78 (0.75, 0.81)
Esophagus	0.50 (0.50, 0.51)	0.54 (0.53, 0.54)	0.38 (0.36, 0.40)
Stomach	0.84 (0.83, 0.85)	0.74 (0.73, 0.75)	1.08 (1.04, 1.11)
Colon and Rectum	4.15 (4.13, 4.18)	4.09 (4.07, 4.12)	4.15 (4.08, 4.22)
Invasive and In Situ	4.30 (4.28, 4.32)	4.23 (4.20, 4.25)	4.32 (4.25, 4.39)
Liver and Intrahepatic Bile Duct	1.03 (1.02, 1.04)	0.93 (0.92, 0.95)	1.10 (1.06, 1.13)
Pancreas	1.65 (1.63, 1.66)	1.64 (1.63, 1.66)	1.68 (1.64, 1.73)
Larynx	0.31 (0.31, 0.32)	0.32 (0.31, 0.32)	0.38 (0.36, 0.40)
Invasive and In Situ	0.34 (0.33, 0.34)	0.34 (0.33, 0.35)	0.40 (0.38, 0.42)
Lung and Bronchus	6.27 (6.24, 6.30)	6.45 (6.41, 6.48)	5.54 (5.46, 5.62)
Melanoma of the Skin	2.27 (2.25, 2.28)	2.66 (2.64, 2.68)	0.10 (0.08, 0.11)
Invasive and In Situ	4.00 (3.97, 4.02)	4.59 (4.56, 4.61)	0.13 (0.12, 0.15)
Breast	6.62 (6.59, 6.65)	6.67 (6.64, 6.70)	6.28 (6.20, 6.37)
Invasive and In Situ	7.82 (7.80, 7.85)	7.82 (7.79, 7.86)	7.55 (7.46, 7.63)
Urinary Bladder (Invasive and In Situ)	2.44 (2.42, 2.46)	2.65 (2.63, 2.67)	1.29 (1.25, 1.34)
Kidney and Renal Pelvis	1.70 (1.69, 1.72)	1.76 (1.75, 1.78)	1.59 (1.55, 1.63)
Brain and Other Nervous System	0.62 (0.61, 0.63)	0.68 (0.67, 0.69)	0.35 (0.33, 0.37)
Thyroid	1.28 (1.27, 1.29)	1.33 (1.32, 1.35)	0.76 (0.73, 0.78)
Hodgkin Lymphoma	0.21 (0.21, 0.22)	0.23 (0.22, 0.23)	0.19 (0.18, 0.21)
Non-Hodgkin Lymphoma	2.15 (2.13, 2.16)	2.25 (2.23, 2.27)	1.37 (1.33, 1.41)
Myeloma	0.83 (0.82, 0.84)	0.76 (0.75, 0.77)	1.44 (1.40, 1.48)
Leukemia	1.55 (1.53, 1.56)	1.63 (1.62, 1.65)	1.05 (1.02, 1.09)
Acute Lymphocytic Leukemia	0.14 (0.13, 0.14)	0.15 (0.14, 0.15)	0.07 (0.07, 0.08)
Chronic Lymphocytic Leukemia	0.60 (0.60, 0.61)	0.65 (0.64, 0.66)	0.34 (0.32, 0.37)
Acute Myeloid Leukemia	0.48 (0.47, 0.49)	0.50 (0.49, 0.51)	0.37 (0.35, 0.39)
Chronic Myeloid Leukemia	0.21 (0.20, 0.21)	0.22 (0.21, 0.22)	0.17 (0.15, 0.18)
Kaposi Sarcoma	0.11 (0.11, 0.12)	0.13 (0.12, 0.13)	0.05 (0.04, 0.06)
Mesothelioma	0.04 (0.04, 0.04)	0.03 (0.03, 0.04)	0.08 (0.07, 0.08)

Source: Devcan Version 6.7.8, April 2020, National Cancer Institute (https://surveillance.cancer.gov/devcan/).
SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

Note: Invasive cancer only unless specified otherwise.
A percent or confidence interval value of 0.00 represents a value that is below 0.005.

Table 1.14 - continued

Lifetime Risk (Percent) of Being Diagnosed with Cancer by Site and Race/Ethnicity

Both Sexes, 21 SEER Areas, 2015-2017

Site	Asian/Pacific Islanders Percent (95% C.I.)	American Indian/ Alaska Natives[a] Percent (95% C.I.)	Hispanics[b] Percent (95% C.I.)
All Sites	34.39 (34.12, 34.67)	27.75 (26.78, 28.79)	36.39 (36.16, 36.63)
Invasive and In Situ	35.87 (35.60, 36.15)	28.56 (27.58, 29.61)	37.83 (37.59, 38.08)
Oral Cavity and Pharynx	0.97 (0.93, 1.02)	0.79 (0.67, 1.02)	0.80 (0.77, 0.84)
Esophagus	0.33 (0.31, 0.36)	0.46 (0.33, 0.70)	0.39 (0.36, 0.42)
Stomach	1.57 (1.51, 1.64)	0.83 (0.66, 1.10)	1.36 (1.31, 1.41)
Colon and Rectum	4.26 (4.16, 4.36)	4.16 (3.77, 4.63)	4.16 (4.08, 4.24)
Invasive and In Situ	4.40 (4.30, 4.51)	4.23 (3.85, 4.71)	4.32 (4.24, 4.41)
Liver and Intrahepatic Bile Duct	1.79 (1.73, 1.86)	1.62 (1.43, 1.90)	1.76 (1.70, 1.81)
Pancreas	1.64 (1.57, 1.70)	1.39 (1.16, 1.71)	1.70 (1.64, 1.76)
Larynx	0.15 (0.13, 0.17)	0.27 (0.19, 0.47)	0.27 (0.25, 0.29)
Invasive and In Situ	0.16 (0.14, 0.18)	0.28 (0.20, 0.49)	0.29 (0.27, 0.31)
Lung and Bronchus	5.53 (5.42, 5.66)	4.45 (4.03, 4.95)	4.03 (3.94, 4.11)
Melanoma of the Skin	0.17 (0.15, 0.19)	0.49 (0.39, 0.70)	0.55 (0.52, 0.58)
Invasive and In Situ	0.24 (0.22, 0.27)	0.80 (0.67, 1.04)	0.89 (0.85, 0.93)
Breast	5.90 (5.80, 6.00)	4.04 (3.71, 4.46)	5.55 (5.47, 5.63)
Invasive and In Situ	7.32 (7.22, 7.43)	4.62 (4.27, 5.04)	6.60 (6.51, 6.69)
Urinary Bladder (Invasive and In Situ)	1.47 (1.41, 1.54)	1.24 (1.05, 1.53)	1.59 (1.53, 1.65)
Kidney and Renal Pelvis	1.12 (1.08, 1.17)	1.81 (1.61, 2.09)	1.86 (1.81, 1.91)
Brain and Other Nervous System	0.41 (0.38, 0.44)	0.37 (0.25, 0.61)	0.55 (0.52, 0.58)
Thyroid	1.40 (1.36, 1.44)	0.81 (0.67, 1.06)	1.26 (1.22, 1.29)
Hodgkin Lymphoma	0.11 (0.10, 0.13)	0.11 (0.07, 0.30)	0.21 (0.19, 0.22)
Non-Hodgkin Lymphoma	1.81 (1.74, 1.87)	1.19 (0.99, 1.48)	2.24 (2.18, 2.30)
Myeloma	0.56 (0.53, 0.60)	0.67 (0.51, 0.93)	0.88 (0.84, 0.91)
Leukemia	1.01 (0.96, 1.06)	0.79 (0.66, 1.03)	1.24 (1.19, 1.28)
Acute Lymphocytic Leukemia	0.12 (0.11, 0.14)	0.13 (0.10, 0.31)	0.21 (0.19, 0.22)
Chronic Lymphocytic Leukemia	0.18 (0.16, 0.20)	0.21 (0.14, 0.40)	0.30 (0.28, 0.33)
Acute Myeloid Leukemia	0.46 (0.43, 0.50)	0.20 (0.14, 0.39)	0.44 (0.41, 0.47)
Chronic Myeloid Leukemia	0.16 (0.14, 0.19)	0.14 (0.08, 0.33)	0.18 (0.16, 0.20)
Kaposi Sarcoma	0.06 (0.04, 0.07)	0.08 (0.03, 0.28)	0.10 (0.08, 0.11)
Mesothelioma	0.02 (0.01, 0.03)	0.05 (0.02, 0.25)	0.07 (0.06, 0.09)

Devcan Version 6.7.8, April 2020, National Cancer Institute (https://surveillance.cancer.gov/devcan/).

Source: SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

Note: Invasive cancer only unless specified otherwise.

[a] Underlying incidence data for American Indian/Alaska Native are based on the PRCDA(Purchased/Referred Care Delivery Areas) counties.

[b] Hispanic is not mutually exclusive from whites, blacks, Asian Pacific Islanders, and American Indians/Alaska Natives. Underlying incidence data for Hispanics are based on NHIA and exclude cases from the Alaska Native Registry.

A percent or confidence interval value of 0.00 represents a value that is below 0.005.

Table 1.15

Lifetime Risk (Percent) of Being Diagnosed with Cancer by Site and Race/Ethnicity

Males, 21 SEER Areas, 2015-2017

Site	All Races	Whites	Blacks
	Percent (95% C.I.)	Percent (95% C.I.)	Percent (95% C.I.)
All Sites	40.46 (40.36, 40.57)	40.15 (40.04, 40.27)	38.04 (37.74, 38.36)
Invasive and In Situ	42.14 (42.04, 42.25)	41.87 (41.75, 41.99)	38.45 (38.14, 38.77)
Oral Cavity and Pharynx	1.66 (1.64, 1.68)	1.74 (1.72, 1.77)	1.11 (1.06, 1.16)
Esophagus	0.79 (0.78, 0.81)	0.85 (0.83, 0.86)	0.55 (0.51, 0.59)
Stomach	1.04 (1.02, 1.06)	0.93 (0.91, 0.95)	1.27 (1.21, 1.34)
Colon and Rectum	4.30 (4.27, 4.33)	4.21 (4.18, 4.25)	4.33 (4.23, 4.44)
Invasive and In Situ	4.46 (4.43, 4.50)	4.36 (4.33, 4.40)	4.51 (4.40, 4.62)
Liver and Intrahepatic Bile Duct	1.46 (1.44, 1.47)	1.31 (1.29, 1.33)	1.64 (1.59, 1.70)
Pancreas	1.68 (1.66, 1.70)	1.69 (1.66, 1.71)	1.59 (1.53, 1.66)
Larynx	0.52 (0.50, 0.53)	0.52 (0.50, 0.53)	0.64 (0.60, 0.68)
Invasive and In Situ	0.55 (0.54, 0.57)	0.56 (0.54, 0.57)	0.67 (0.63, 0.71)
Lung and Bronchus	6.57 (6.52, 6.61)	6.58 (6.54, 6.63)	6.34 (6.21, 6.47)
Melanoma of the Skin	2.79 (2.76, 2.81)	3.23 (3.20, 3.26)	0.10 (0.08, 0.12)
Invasive and In Situ	4.84 (4.80, 4.88)	5.49 (5.45, 5.54)	0.13 (0.11, 0.15)
Breast	0.13 (0.13, 0.14)	0.13 (0.13, 0.14)	0.17 (0.15, 0.19)
Invasive and In Situ	0.15 (0.14, 0.15)	0.14 (0.14, 0.15)	0.18 (0.16, 0.21)
Prostate	12.12 (12.06, 12.17)	11.28 (11.22, 11.34)	16.29 (16.10, 16.49)
Testis	0.41 (0.40, 0.41)	0.48 (0.47, 0.49)	0.11 (0.10, 0.13)
Urinary Bladder (Invasive and In Situ)	3.85 (3.81, 3.88)	4.16 (4.12, 4.20)	1.84 (1.76, 1.92)
Kidney and Renal Pelvis	2.18 (2.15, 2.20)	2.24 (2.22, 2.27)	1.98 (1.92, 2.05)
Brain and Other Nervous System	0.69 (0.68, 0.70)	0.76 (0.74, 0.77)	0.38 (0.35, 0.41)
Thyroid	0.69 (0.67, 0.70)	0.73 (0.72, 0.74)	0.32 (0.29, 0.35)
Hodgkin Lymphoma	0.23 (0.22, 0.24)	0.24 (0.24, 0.25)	0.21 (0.19, 0.23)
Non-Hodgkin Lymphoma	2.40 (2.38, 2.43)	2.51 (2.48, 2.54)	1.47 (1.42, 1.54)
Myeloma	0.95 (0.94, 0.97)	0.89 (0.87, 0.91)	1.50 (1.44, 1.57)
Leukemia	1.83 (1.81, 1.86)	1.93 (1.91, 1.96)	1.18 (1.12, 1.24)
Acute Lymphocytic Leukemia	0.15 (0.14, 0.16)	0.16 (0.16, 0.17)	0.08 (0.07, 0.10)
Chronic Lymphocytic Leukemia	0.74 (0.73, 0.75)	0.79 (0.77, 0.81)	0.42 (0.39, 0.46)
Acute Myeloid Leukemia	0.56 (0.54, 0.57)	0.58 (0.56, 0.59)	0.38 (0.35, 0.42)
Chronic Myeloid Leukemia	0.25 (0.24, 0.26)	0.26 (0.25, 0.27)	0.19 (0.17, 0.22)
Kaposi Sarcoma	0.18 (0.17, 0.19)	0.20 (0.19, 0.21)	0.09 (0.07, 0.11)
Mesothelioma	0.07 (0.07, 0.08)	0.06 (0.05, 0.06)	0.14 (0.13, 0.16)

Devcan Version 6.7.8, April 2020, National Cancer Institute (https://surveillance.cancer.gov/devcan/).
Source: SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).
Note: Invasive cancer only unless specified otherwise.
A percent or confidence interval value of 0.00 represents a value that is below 0.005.

Table 1.15 - continued

Lifetime Risk (Percent) of Being Diagnosed with Cancer by Site and Race/Ethnicity

Males, 21 SEER Areas, 2015-2017

Site	Asian/Pacific Islanders Percent (95% C.I.)	American Indian/ Alaska Natives[a] Percent (95% C.I.)	Hispanics[b] Percent (95% C.I.)
All Sites	34.92 (34.50, 35.34)	26.69 (25.37, 28.21)	37.16 (36.79, 37.54)
Invasive and In Situ	35.23 (34.81, 35.66)	26.96 (25.64, 28.49)	37.71 (37.34, 38.09)
Oral Cavity and Pharynx	1.29 (1.22, 1.36)	1.13 (0.92, 1.64)	1.10 (1.04, 1.17)
Esophagus	0.53 (0.48, 0.59)	0.59 (0.44, 1.08)	0.64 (0.59, 0.71)
Stomach	1.89 (1.79, 1.99)	0.96 (0.74, 1.48)	1.57 (1.50, 1.66)
Colon and Rectum	4.61 (4.46, 4.76)	3.78 (3.28, 4.53)	4.53 (4.41, 4.67)
Invasive and In Situ	4.78 (4.63, 4.94)	3.90 (3.39, 4.66)	4.72 (4.59, 4.85)
Liver and Intrahepatic Bile Duct	2.54 (2.44, 2.65)	2.28 (1.96, 2.86)	2.36 (2.28, 2.45)
Pancreas	1.64 (1.55, 1.75)	1.70 (1.30, 2.38)	1.65 (1.57, 1.74)
Larynx	0.28 (0.24, 0.33)	0.40 (0.27, 0.89)	0.48 (0.44, 0.53)
Invasive and In Situ	0.29 (0.26, 0.34)	0.43 (0.29, 0.93)	0.52 (0.48, 0.58)
Lung and Bronchus	6.71 (6.51, 6.91)	4.33 (3.73, 5.18)	4.49 (4.35, 4.63)
Melanoma of the Skin	0.20 (0.16, 0.24)	0.53 (0.37, 1.03)	0.55 (0.51, 0.60)
Invasive and In Situ	0.28 (0.24, 0.33)	0.86 (0.66, 1.38)	0.87 (0.82, 0.94)
Breast	0.09 (0.07, 0.12)	0.03 (0.00, 0.54)	0.09 (0.07, 0.11)
Invasive and In Situ	0.10 (0.08, 0.13)	0.04 (0.01, 0.55)	0.09 (0.07, 0.12)
Prostate	7.94 (7.75, 8.13)	5.62 (5.03, 6.44)	11.03 (10.84, 11.22)
Testis	0.16 (0.15, 0.19)	0.30 (0.23, 0.76)	0.39 (0.37, 0.41)
Urinary Bladder (Invasive and In Situ)	2.42 (2.30, 2.56)	1.84 (1.51, 2.45)	2.56 (2.45, 2.68)
Kidney and Renal Pelvis	1.50 (1.43, 1.59)	2.09 (1.80, 2.66)	2.34 (2.26, 2.43)
Brain and Other Nervous System	0.46 (0.42, 0.51)	0.41 (0.28, 0.90)	0.59 (0.55, 0.64)
Thyroid	0.74 (0.70, 0.79)	0.31 (0.21, 0.78)	0.57 (0.53, 0.61)
Hodgkin Lymphoma	0.13 (0.11, 0.16)	0.09 (0.04, 0.58)	0.22 (0.20, 0.25)
Non-Hodgkin Lymphoma	2.15 (2.04, 2.26)	1.05 (0.83, 1.58)	2.39 (2.30, 2.49)
Myeloma	0.68 (0.62, 0.74)	0.74 (0.55, 1.26)	0.97 (0.92, 1.04)
Leukemia	1.21 (1.13, 1.29)	1.04 (0.81, 1.57)	1.40 (1.34, 1.48)
Acute Lymphocytic Leukemia	0.13 (0.11, 0.17)	0.14 (0.09, 0.61)	0.22 (0.21, 0.25)
Chronic Lymphocytic Leukemia	0.23 (0.20, 0.27)	0.31 (0.20, 0.79)	0.35 (0.32, 0.40)
Acute Myeloid Leukemia	0.55 (0.50, 0.61)	0.26 (0.17, 0.74)	0.48 (0.45, 0.53)
Chronic Myeloid Leukemia	0.20 (0.17, 0.24)	0.18 (0.09, 0.67)	0.20 (0.17, 0.24)
Kaposi Sarcoma	0.09 (0.07, 0.12)	0.10 (0.03, 0.60)	0.16 (0.13, 0.19)
Mesothelioma	0.04 (0.02, 0.06)	0.06 (0.02, 0.56)	0.12 (0.10, 0.15)

Devcan Version 6.7.8, April 2020, National Cancer Institute (https://surveillance.cancer.gov/devcan/).

Source: SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

Note: Invasive cancer only unless specified otherwise.

[a] Underlying incidence data for American Indian/Alaska Native are based on the PRCDA(Purchased/Referred Care Delivery Areas) counties.

[b] Hispanic is not mutually exclusive from whites, blacks, Asian Pacific Islanders, and American Indians/Alaska Natives. Underlying incidence data for Hispanics are based on NHIA and exclude cases from the Alaska Native Registry.

A percent or confidence interval value of 0.00 represents a value that is below 0.005.

Table 1.16

Lifetime Risk (Percent) of Being Diagnosed with Cancer by Site and Race/Ethnicity

Females, 21 SEER Areas, 2015-2017

Site	All Races	Whites	Blacks
	Percent (95% C.I.)	Percent (95% C.I.)	Percent (95% C.I.)
All Sites	38.88 (38.78, 38.98)	39.54 (39.43, 39.65)	34.66 (34.39, 34.94)
Invasive and In Situ	42.22 (42.12, 42.32)	42.88 (42.77, 42.99)	36.97 (36.69, 37.25)
Oral Cavity and Pharynx	0.71 (0.70, 0.72)	0.73 (0.72, 0.75)	0.49 (0.46, 0.52)
Esophagus	0.23 (0.23, 0.24)	0.24 (0.23, 0.25)	0.24 (0.22, 0.27)
Stomach	0.66 (0.65, 0.68)	0.56 (0.55, 0.58)	0.92 (0.87, 0.97)
Colon and Rectum	4.02 (3.99, 4.05)	3.98 (3.94, 4.01)	4.00 (3.91, 4.10)
Invasive and In Situ	4.15 (4.11, 4.18)	4.10 (4.06, 4.13)	4.16 (4.06, 4.26)
Liver and Intrahepatic Bile Duct	0.62 (0.61, 0.63)	0.57 (0.55, 0.58)	0.61 (0.58, 0.65)
Pancreas	1.62 (1.60, 1.64)	1.60 (1.58, 1.62)	1.76 (1.70, 1.83)
Larynx	0.12 (0.12, 0.13)	0.13 (0.12, 0.13)	0.16 (0.14, 0.18)
Invasive and In Situ	0.13 (0.13, 0.14)	0.14 (0.13, 0.14)	0.17 (0.15, 0.19)
Lung and Bronchus	6.04 (6.00, 6.08)	6.36 (6.31, 6.40)	4.89 (4.78, 4.99)
Melanoma of the Skin	1.80 (1.79, 1.83)	2.14 (2.12, 2.17)	0.10 (0.08, 0.11)
Invasive and In Situ	3.25 (3.22, 3.27)	3.77 (3.74, 3.80)	0.14 (0.12, 0.16)
Breast	12.86 (12.81, 12.92)	13.13 (13.07, 13.19)	11.65 (11.50, 11.80)
Invasive and In Situ	15.23 (15.18, 15.29)	15.43 (15.36, 15.49)	14.02 (13.86, 14.18)
Cervix Uteri	0.63 (0.62, 0.64)	0.61 (0.60, 0.62)	0.76 (0.72, 0.79)
Corpus and Uterus, NOS	3.11 (3.09, 3.14)	3.15 (3.13, 3.18)	3.07 (2.99, 3.14)
Invasive and In Situ	3.13 (3.10, 3.16)	3.17 (3.14, 3.20)	3.09 (3.02, 3.17)
Ovary[a]	1.22 (1.21, 1.24)	1.27 (1.25, 1.29)	0.95 (0.90, 0.99)
Urinary Bladder (Invasive and In Situ)	1.17 (1.15, 1.18)	1.25 (1.23, 1.27)	0.85 (0.80, 0.90)
Kidney and Renal Pelvis	1.26 (1.24, 1.27)	1.29 (1.27, 1.31)	1.25 (1.20, 1.30)
Brain and Other Nervous System	0.55 (0.54, 0.56)	0.61 (0.60, 0.62)	0.32 (0.29, 0.35)
Thyroid	1.88 (1.86, 1.90)	1.96 (1.94, 1.98)	1.16 (1.12, 1.20)
Hodgkin Lymphoma	0.19 (0.19, 0.20)	0.21 (0.20, 0.21)	0.18 (0.17, 0.20)
Non-Hodgkin Lymphoma	1.91 (1.89, 1.94)	2.01 (1.98, 2.03)	1.28 (1.23, 1.33)
Myeloma	0.72 (0.71, 0.73)	0.64 (0.62, 0.65)	1.40 (1.34, 1.45)
Leukemia	1.29 (1.27, 1.31)	1.35 (1.33, 1.37)	0.96 (0.91, 1.00)
Acute Lymphocytic Leukemia	0.12 (0.12, 0.13)	0.13 (0.12, 0.14)	0.07 (0.06, 0.08)
Chronic Lymphocytic Leukemia	0.48 (0.47, 0.49)	0.52 (0.51, 0.54)	0.28 (0.26, 0.31)
Acute Myeloid Leukemia	0.42 (0.41, 0.43)	0.43 (0.42, 0.44)	0.36 (0.33, 0.39)
Chronic Myeloid Leukemia	0.17 (0.17, 0.18)	0.18 (0.17, 0.18)	0.15 (0.13, 0.17)
Kaposi Sarcoma	0.05 (0.05, 0.06)	0.06 (0.06, 0.07)	0.02 (0.02, 0.03)
Mesothelioma	0.01 (0.01, 0.01)	0.01 (0.01, 0.01)	0.02 (0.01, 0.02)

Devcan Version 6.7.8, April 2020, National Cancer Institute (https://surveillance.cancer.gov/devcan/).
Source: SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).
Note: Invasive cancer only unless specified otherwise.
[a] Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.
A percent or confidence interval value of 0.00 represents a value that is below 0.005.

Table 1.16 - continued

Lifetime Risk (Percent) of Being Diagnosed with Cancer by Site and Race/Ethnicity

Females, 21 SEER Areas, 2015-2017

Site	Asian/Pacific Islanders Percent (95% C.I.)	American Indian/ Alaska Natives[a] Percent (95% C.I.)	Hispanics[b] Percent (95% C.I.)
All Sites	34.13 (33.77, 34.49)	28.91 (27.52, 30.44)	36.26 (35.95, 36.58)
Invasive and In Situ	36.63 (36.26, 37.00)	30.25 (28.84, 31.81)	38.56 (38.24, 38.88)
Oral Cavity and Pharynx	0.70 (0.65, 0.76)	0.47 (0.34, 0.82)	0.54 (0.50, 0.59)
Esophagus	0.17 (0.14, 0.20)	0.32 (0.14, 0.74)	0.18 (0.15, 0.21)
Stomach	1.30 (1.22, 1.39)	0.70 (0.46, 1.14)	1.17 (1.11, 1.24)
Colon and Rectum	3.96 (3.83, 4.10)	4.52 (3.96, 5.24)	3.85 (3.74, 3.97)
Invasive and In Situ	4.08 (3.94, 4.22)	4.55 (3.99, 5.28)	4.01 (3.90, 4.12)
Liver and Intrahepatic Bile Duct	1.15 (1.08, 1.23)	1.00 (0.79, 1.39)	1.21 (1.14, 1.27)
Pancreas	1.63 (1.55, 1.73)	1.12 (0.86, 1.57)	1.75 (1.67, 1.83)
Larynx	0.04 (0.03, 0.07)	0.14 (0.06, 0.49)	0.08 (0.07, 0.10)
Invasive and In Situ	0.05 (0.03, 0.07)	0.14 (0.06, 0.49)	0.09 (0.07, 0.11)
Lung and Bronchus	4.57 (4.43, 4.72)	4.60 (4.02, 5.35)	3.68 (3.57, 3.80)
Melanoma of the Skin	0.15 (0.12, 0.18)	0.46 (0.34, 0.80)	0.56 (0.52, 0.60)
Invasive and In Situ	0.21 (0.18, 0.24)	0.75 (0.58, 1.13)	0.92 (0.87, 0.97)
Breast	10.95 (10.77, 11.13)	7.92 (7.29, 8.70)	10.61 (10.46, 10.76)
Invasive and In Situ	13.62 (13.43, 13.81)	9.06 (8.40, 9.87)	12.65 (12.49, 12.82)
Cervix Uteri	0.64 (0.60, 0.69)	0.62 (0.49, 0.96)	0.87 (0.83, 0.91)
Corpus and Uterus, NOS	2.48 (2.40, 2.57)	1.96 (1.70, 2.39)	2.86 (2.78, 2.94)
Invasive and In Situ	2.49 (2.41, 2.57)	1.96 (1.70, 2.39)	2.88 (2.80, 2.96)
Ovary[c]	1.06 (1.01, 1.12)	0.83 (0.66, 1.21)	1.24 (1.19, 1.30)
Urinary Bladder (Invasive and In Situ)	0.68 (0.63, 0.75)	0.69 (0.49, 1.09)	0.80 (0.74, 0.86)
Kidney and Renal Pelvis	0.79 (0.74, 0.85)	1.53 (1.28, 1.97)	1.44 (1.38, 1.50)
Brain and Other Nervous System	0.36 (0.33, 0.40)	0.32 (0.15, 0.73)	0.51 (0.47, 0.55)
Thyroid	2.00 (1.93, 2.06)	1.31 (1.05, 1.75)	1.95 (1.90, 2.01)
Hodgkin Lymphoma	0.10 (0.09, 0.12)	0.14 (0.07, 0.47)	0.19 (0.18, 0.22)
Non-Hodgkin Lymphoma	1.53 (1.45, 1.61)	1.31 (1.01, 1.79)	2.12 (2.04, 2.20)
Myeloma	0.46 (0.42, 0.51)	0.59 (0.37, 1.02)	0.80 (0.75, 0.85)
Leukemia	0.84 (0.78, 0.91)	0.56 (0.42, 0.92)	1.10 (1.04, 1.16)
Acute Lymphocytic Leukemia	0.11 (0.10, 0.14)	0.13 (0.08, 0.45)	0.19 (0.17, 0.21)
Chronic Lymphocytic Leukemia	0.14 (0.11, 0.17)	0.11 (0.04, 0.45)	0.26 (0.23, 0.29)
Acute Myeloid Leukemia	0.39 (0.35, 0.43)	0.14 (0.07, 0.48)	0.40 (0.37, 0.44)
Chronic Myeloid Leukemia	0.13 (0.11, 0.16)	0.11 (0.05, 0.44)	0.16 (0.14, 0.19)
Kaposi Sarcoma	0.03 (0.02, 0.05)	0.07 (0.01, 0.41)	0.05 (0.04, 0.06)
Mesothelioma	0.01 (0.00, 0.02)	0.04 (0.00, 0.38)	0.03 (0.02, 0.04)

Devcan Version 6.7.8, April 2020, National Cancer Institute (https://surveillance.cancer.gov/devcan/).
Source: SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).
Note: Invasive cancer only unless specified otherwise.
[a] Underlying incidence data for American Indian/Alaska Native are based on the PRCDA(Purchased/Referred Care Delivery Areas) counties.
[b] Hispanic is not mutually exclusive from whites, blacks, Asian Pacific Islanders, and American Indians/Alaska Natives. Underlying incidence data for Hispanics are based on NHIA and exclude cases from the Alaska Native Registry.
[c] Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.
A percent or confidence interval value of 0.00 represents a value that is below 0.005.

Table 1.17

Lifetime Risk (Percent) of Dying from Cancer by Site and Race/Ethnicity

Both Sexes, Total U.S., 2015-2017

Site	All Races	Whites	Blacks
	Percent (95% C.I.)	Percent (95% C.I.)	Percent (95% C.I.)
All Sites	19.37 (19.34, 19.40)	19.52 (19.49, 19.55)	19.26 (19.17, 19.34)
Oral Cavity and Pharynx	0.30 (0.30, 0.31)	0.31 (0.30, 0.31)	0.26 (0.25, 0.27)
Esophagus	0.46 (0.46, 0.47)	0.49 (0.49, 0.50)	0.31 (0.30, 0.32)
Stomach	0.36 (0.36, 0.36)	0.31 (0.31, 0.32)	0.57 (0.56, 0.59)
Colon and Rectum	1.72 (1.71, 1.73)	1.69 (1.68, 1.70)	1.99 (1.96, 2.02)
Liver and Intrahepatic Bile Duct	0.78 (0.77, 0.79)	0.74 (0.73, 0.75)	0.87 (0.85, 0.89)
Pancreas	1.38 (1.37, 1.39)	1.38 (1.37, 1.38)	1.45 (1.42, 1.47)
Larynx	0.11 (0.11, 0.11)	0.11 (0.11, 0.11)	0.16 (0.15, 0.17)
Lung and Bronchus	4.76 (4.74, 4.77)	4.87 (4.86, 4.89)	4.30 (4.26, 4.34)
Melanoma of the Skin	0.27 (0.26, 0.27)	0.31 (0.31, 0.31)	0.03 (0.03, 0.04)
Breast	1.32 (1.31, 1.33)	1.29 (1.28, 1.30)	1.65 (1.62, 1.68)
Urinary Bladder	0.62 (0.61, 0.62)	0.65 (0.64, 0.65)	0.42 (0.41, 0.44)
Kidney and Renal Pelvis	0.45 (0.45, 0.46)	0.47 (0.46, 0.47)	0.38 (0.37, 0.39)
Brain and Other Nervous System	0.47 (0.47, 0.48)	0.52 (0.51, 0.52)	0.25 (0.24, 0.26)
Thyroid	0.06 (0.06, 0.07)	0.06 (0.06, 0.07)	0.05 (0.05, 0.06)
Hodgkin Lymphoma	0.03 (0.03, 0.03)	0.03 (0.03, 0.04)	0.02 (0.02, 0.03)
Non-Hodgkin Lymphoma	0.70 (0.70, 0.71)	0.74 (0.73, 0.75)	0.42 (0.40, 0.43)
Myeloma	0.42 (0.41, 0.42)	0.39 (0.39, 0.39)	0.67 (0.65, 0.69)
Leukemia	0.80 (0.79, 0.81)	0.84 (0.83, 0.84)	0.57 (0.56, 0.59)
Acute Lymphocytic Leukemia	0.04 (0.04, 0.04)	0.05 (0.04, 0.05)	0.03 (0.02, 0.03)
Chronic Lymphocytic Leukemia	0.17 (0.16, 0.17)	0.18 (0.17, 0.18)	0.12 (0.11, 0.12)
Acute Myeloid Leukemia	0.33 (0.33, 0.34)	0.35 (0.35, 0.35)	0.23 (0.22, 0.24)
Chronic Myeloid Leukemia	0.04 (0.04, 0.04)	0.04 (0.04, 0.04)	0.03 (0.03, 0.04)

Devcan Version 6.7.8, April 2020, National Cancer Institute (https://surveillance.cancer.gov/devcan/).
Source: NCHS public use data file for the total US.
A percent or confidence interval value of 0.00 represents a value that is below 0.005.

Table 1.17 - continued

Lifetime Risk (Percent) of Dying from Cancer by Site and Race/Ethnicity

Both Sexes, Total U.S., 2015-2017

Site	Asian/Pacific Islanders Percent (95% C.I.)	American Indian/ Alaska Natives[a] Percent (95% C.I.)	Hispanics[b] Percent (95% C.I.)
All Sites	17.66 (17.47, 17.86)	15.72 (15.31, 16.15)	16.95 (16.83, 17.07)
Oral Cavity and Pharynx	0.33 (0.30, 0.36)	0.24 (0.19, 0.32)	0.23 (0.22, 0.25)
Esophagus	0.26 (0.23, 0.28)	0.36 (0.30, 0.44)	0.29 (0.27, 0.31)
Stomach	0.96 (0.91, 1.01)	0.46 (0.40, 0.56)	0.71 (0.69, 0.74)
Colon and Rectum	1.77 (1.70, 1.84)	1.72 (1.58, 1.89)	1.72 (1.68, 1.77)
Liver and Intrahepatic Bile Duct	1.43 (1.38, 1.49)	1.13 (1.02, 1.25)	1.31 (1.28, 1.35)
Pancreas	1.41 (1.35, 1.47)	1.03 (0.91, 1.17)	1.31 (1.28, 1.35)
Larynx	0.06 (0.05, 0.07)	0.09 (0.06, 0.14)	0.10 (0.09, 0.11)
Lung and Bronchus	3.95 (3.85, 4.04)	3.51 (3.32, 3.73)	2.64 (2.59, 2.69)
Melanoma of the Skin	0.06 (0.05, 0.08)	0.07 (0.05, 0.13)	0.10 (0.09, 0.11)
Breast	0.99 (0.94, 1.04)	0.97 (0.85, 1.11)	1.08 (1.05, 1.12)
Urinary Bladder	0.44 (0.40, 0.48)	0.37 (0.29, 0.47)	0.46 (0.43, 0.48)
Kidney and Renal Pelvis	0.31 (0.28, 0.34)	0.58 (0.50, 0.69)	0.52 (0.49, 0.54)
Brain and Other Nervous System	0.32 (0.29, 0.34)	0.25 (0.20, 0.33)	0.38 (0.37, 0.40)
Thyroid	0.12 (0.10, 0.14)	0.06 (0.03, 0.13)	0.11 (0.10, 0.12)
Hodgkin Lymphoma	0.02 (0.02, 0.03)	0.04 (0.02, 0.09)	0.05 (0.05, 0.06)
Non-Hodgkin Lymphoma	0.69 (0.65, 0.73)	0.47 (0.40, 0.57)	0.72 (0.69, 0.74)
Myeloma	0.29 (0.26, 0.32)	0.35 (0.28, 0.44)	0.41 (0.39, 0.43)
Leukemia	0.60 (0.57, 0.64)	0.42 (0.35, 0.51)	0.65 (0.63, 0.68)
Acute Lymphocytic Leukemia	0.04 (0.03, 0.06)	0.04 (0.03, 0.10)	0.07 (0.06, 0.08)
Chronic Lymphocytic Leukemia	0.05 (0.04, 0.06)	0.03 (0.02, 0.09)	0.09 (0.08, 0.10)
Acute Myeloid Leukemia	0.32 (0.30, 0.35)	0.17 (0.13, 0.24)	0.26 (0.25, 0.28)
Chronic Myeloid Leukemia	0.03 (0.02, 0.04)	0.02 (0.01, 0.07)	0.04 (0.03, 0.05)

Source: Devcan Version 6.7.8, April 2020, National Cancer Institute (https://surveillance.cancer.gov/devcan/). NCHS public use data file for the total US.

[a] Underlying mortality data for American Indian/Alaska Native are based on the PRCDA (Purchased/Referred Care Delivery Areas) counties.

[b] Hispanic is not mutually exclusive from whites, blacks, Asian Pacific Islanders, and American Indians/Alaska Natives.

A percent or confidence interval value of 0.00 represents a value that is below 0.005.

Table 1.18

Lifetime Risk (Percent) of Dying from Cancer by Site and Race/Ethnicity

Males, Total U.S., 2015-2017

Site	All Races	Whites	Blacks
	Percent (95% C.I.)	Percent (95% C.I.)	Percent (95% C.I.)
All Sites	20.89 (20.85, 20.93)	21.02 (20.98, 21.06)	20.80 (20.67, 20.93)
Oral Cavity and Pharynx	0.42 (0.41, 0.43)	0.42 (0.42, 0.43)	0.38 (0.37, 0.40)
Esophagus	0.74 (0.74, 0.75)	0.80 (0.79, 0.81)	0.46 (0.44, 0.48)
Stomach	0.43 (0.43, 0.44)	0.38 (0.37, 0.38)	0.71 (0.68, 0.74)
Colon and Rectum	1.80 (1.78, 1.81)	1.76 (1.75, 1.77)	2.10 (2.06, 2.15)
Liver and Intrahepatic Bile Duct	1.03 (1.02, 1.04)	0.97 (0.96, 0.98)	1.21 (1.18, 1.24)
Pancreas	1.40 (1.39, 1.41)	1.41 (1.40, 1.43)	1.36 (1.33, 1.40)
Larynx	0.18 (0.18, 0.19)	0.18 (0.17, 0.18)	0.27 (0.26, 0.29)
Lung and Bronchus	5.22 (5.20, 5.24)	5.27 (5.25, 5.29)	5.12 (5.05, 5.18)
Melanoma of the Skin	0.36 (0.36, 0.37)	0.42 (0.41, 0.42)	0.03 (0.03, 0.04)
Breast	0.03 (0.03, 0.03)	0.03 (0.03, 0.03)	0.05 (0.04, 0.05)
Prostate	2.43 (2.41, 2.44)	2.28 (2.26, 2.30)	3.87 (3.80, 3.94)
Testis	0.02 (0.02, 0.02)	0.02 (0.02, 0.02)	0.01 (0.01, 0.01)
Urinary Bladder	0.93 (0.92, 0.94)	0.98 (0.97, 0.99)	0.53 (0.50, 0.56)
Kidney and Renal Pelvis	0.59 (0.58, 0.59)	0.61 (0.60, 0.61)	0.49 (0.47, 0.51)
Brain and Other Nervous System	0.53 (0.52, 0.54)	0.58 (0.57, 0.58)	0.27 (0.26, 0.29)
Thyroid	0.06 (0.06, 0.06)	0.06 (0.06, 0.06)	0.04 (0.03, 0.04)
Hodgkin Lymphoma	0.04 (0.04, 0.04)	0.04 (0.04, 0.04)	0.03 (0.02, 0.03)
Non-Hodgkin Lymphoma	0.80 (0.79, 0.81)	0.84 (0.83, 0.85)	0.46 (0.44, 0.48)
Myeloma	0.47 (0.46, 0.47)	0.44 (0.44, 0.45)	0.69 (0.67, 0.72)
Leukemia	0.94 (0.93, 0.95)	0.99 (0.98, 1.00)	0.62 (0.60, 0.65)
Acute Lymphocytic Leukemia	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	0.03 (0.02, 0.03)
Chronic Lymphocytic Leukemia	0.20 (0.20, 0.21)	0.22 (0.21, 0.22)	0.14 (0.13, 0.15)
Acute Myeloid Leukemia	0.39 (0.38, 0.40)	0.41 (0.40, 0.42)	0.24 (0.22, 0.25)
Chronic Myeloid Leukemia	0.05 (0.04, 0.05)	0.05 (0.04, 0.05)	0.03 (0.03, 0.04)

Devcan Version 6.7.8, April 2020, National Cancer Institute (https://surveillance.cancer.gov/devcan/).
Source: NCHS public use data file for the total US.
A percent or confidence interval value of 0.00 represents a value that is below 0.005.

Table 1.18 - continued

Lifetime Risk (Percent) of Dying from Cancer by Site and Race/Ethnicity

Males, Total U.S., 2015-2017

Site	Asian/Pacific Islanders Percent (95% C.I.)	American Indian/ Alaska Natives[a] Percent (95% C.I.)	Hispanics[b] Percent (95% C.I.)
All Sites	20.00 (19.69, 20.31)	16.22 (15.64, 16.86)	19.02 (18.83, 19.21)
Oral Cavity and Pharynx	0.45 (0.41, 0.50)	0.31 (0.24, 0.46)	0.33 (0.31, 0.36)
Esophagus	0.41 (0.37, 0.46)	0.56 (0.46, 0.74)	0.48 (0.45, 0.51)
Stomach	1.12 (1.05, 1.21)	0.53 (0.43, 0.71)	0.82 (0.78, 0.86)
Colon and Rectum	1.84 (1.74, 1.95)	1.76 (1.57, 2.02)	1.96 (1.89, 2.03)
Liver and Intrahepatic Bile Duct	1.93 (1.85, 2.02)	1.37 (1.21, 1.59)	1.66 (1.61, 1.71)
Pancreas	1.39 (1.31, 1.48)	0.98 (0.84, 1.19)	1.27 (1.22, 1.32)
Larynx	0.10 (0.08, 0.12)	0.15 (0.10, 0.29)	0.19 (0.17, 0.22)
Lung and Bronchus	4.90 (4.74, 5.06)	3.63 (3.34, 3.97)	3.27 (3.19, 3.36)
Melanoma of the Skin	0.06 (0.04, 0.10)	0.09 (0.05, 0.23)	0.12 (0.10, 0.14)
Breast	0.03 (0.01, 0.06)	0.00 (0.00, 0.15)	0.02 (0.02, 0.03)
Prostate	2.21 (2.07, 2.36)	2.04 (1.77, 2.39)	2.80 (2.70, 2.90)
Testis	0.01 (0.00, 0.02)	0.02 (0.01, 0.17)	0.02 (0.02, 0.03)
Urinary Bladder	0.70 (0.62, 0.78)	0.50 (0.39, 0.70)	0.69 (0.64, 0.74)
Kidney and Renal Pelvis	0.44 (0.39, 0.50)	0.72 (0.61, 0.92)	0.68 (0.64, 0.72)
Brain and Other Nervous System	0.35 (0.31, 0.39)	0.25 (0.18, 0.41)	0.41 (0.39, 0.44)
Thyroid	0.10 (0.08, 0.14)	0.05 (0.02, 0.19)	0.09 (0.08, 0.11)
Hodgkin Lymphoma	0.02 (0.02, 0.05)	0.03 (0.01, 0.18)	0.05 (0.04, 0.07)
Non-Hodgkin Lymphoma	0.83 (0.76, 0.90)	0.53 (0.43, 0.72)	0.80 (0.76, 0.85)
Myeloma	0.34 (0.30, 0.39)	0.37 (0.26, 0.56)	0.46 (0.43, 0.49)
Leukemia	0.75 (0.70, 0.82)	0.52 (0.40, 0.72)	0.77 (0.72, 0.81)
Acute Lymphocytic Leukemia	0.04 (0.03, 0.06)	0.05 (0.03, 0.19)	0.07 (0.06, 0.08)
Chronic Lymphocytic Leukemia	0.07 (0.05, 0.10)	0.04 (0.02, 0.19)	0.11 (0.09, 0.14)
Acute Myeloid Leukemia	0.40 (0.36, 0.45)	0.18 (0.12, 0.33)	0.30 (0.28, 0.33)
Chronic Myeloid Leukemia	0.04 (0.02, 0.06)	0.03 (0.01, 0.18)	0.06 (0.04, 0.08)

Source: Devcan Version 6.7.8, April 2020, National Cancer Institute (https://surveillance.cancer.gov/devcan/).
NCHS public use data file for the total US.

[a] Underlying mortality data for American Indian/Alaska Native are based on the PRCDA (Purchased/Referred Care Delivery Areas) counties.

[b] Hispanic is not mutually exclusive from whites, blacks, Asian Pacific Islanders, and American Indians/Alaska Natives.

A percent or confidence interval value of 0.00 represents a value that is below 0.005.

Table 1.19

Lifetime Risk (Percent) of Dying from Cancer by Site and Race/Ethnicity

Females, Total U.S., 2015-2017

Site	All Races	Whites	Blacks
	Percent (95% C.I.)	Percent (95% C.I.)	Percent (95% C.I.)
All Sites	18.11 (18.07, 18.14)	18.26 (18.22, 18.30)	18.17 (18.05, 18.28)
Oral Cavity and Pharynx	0.19 (0.18, 0.19)	0.19 (0.19, 0.20)	0.15 (0.14, 0.16)
Esophagus	0.20 (0.19, 0.20)	0.20 (0.20, 0.21)	0.18 (0.17, 0.20)
Stomach	0.29 (0.29, 0.30)	0.25 (0.25, 0.26)	0.46 (0.44, 0.48)
Colon and Rectum	1.65 (1.64, 1.66)	1.62 (1.60, 1.63)	1.90 (1.86, 1.95)
Liver and Intrahepatic Bile Duct	0.54 (0.54, 0.55)	0.52 (0.51, 0.53)	0.57 (0.55, 0.60)
Pancreas	1.36 (1.35, 1.37)	1.34 (1.33, 1.35)	1.52 (1.49, 1.56)
Larynx	0.05 (0.04, 0.05)	0.05 (0.04, 0.05)	0.07 (0.06, 0.07)
Lung and Bronchus	4.34 (4.32, 4.36)	4.51 (4.49, 4.53)	3.61 (3.56, 3.66)
Melanoma of the Skin	0.18 (0.18, 0.19)	0.21 (0.20, 0.21)	0.03 (0.03, 0.04)
Breast	2.54 (2.53, 2.56)	2.51 (2.49, 2.52)	3.05 (3.00, 3.10)
Cervix Uteri	0.22 (0.22, 0.22)	0.21 (0.20, 0.21)	0.32 (0.31, 0.34)
Corpus and Uterus, NOS	0.64 (0.63, 0.65)	0.60 (0.59, 0.60)	1.02 (0.99, 1.04)
Ovary	0.86 (0.85, 0.87)	0.90 (0.89, 0.91)	0.68 (0.66, 0.70)
Urinary Bladder	0.35 (0.34, 0.35)	0.35 (0.35, 0.36)	0.34 (0.32, 0.36)
Kidney and Renal Pelvis	0.32 (0.32, 0.33)	0.33 (0.33, 0.34)	0.29 (0.27, 0.30)
Brain and Other Nervous System	0.42 (0.41, 0.43)	0.46 (0.45, 0.47)	0.23 (0.22, 0.25)
Thyroid	0.07 (0.07, 0.07)	0.07 (0.07, 0.07)	0.07 (0.06, 0.08)
Hodgkin Lymphoma	0.03 (0.03, 0.03)	0.03 (0.03, 0.03)	0.02 (0.02, 0.02)
Non-Hodgkin Lymphoma	0.62 (0.61, 0.63)	0.65 (0.64, 0.66)	0.38 (0.36, 0.40)
Myeloma	0.37 (0.37, 0.38)	0.34 (0.33, 0.35)	0.66 (0.63, 0.68)
Leukemia	0.67 (0.66, 0.68)	0.70 (0.69, 0.71)	0.53 (0.51, 0.56)
Acute Lymphocytic Leukemia	0.04 (0.04, 0.04)	0.04 (0.04, 0.04)	0.03 (0.02, 0.03)
Chronic Lymphocytic Leukemia	0.14 (0.13, 0.14)	0.14 (0.14, 0.15)	0.10 (0.09, 0.11)
Acute Myeloid Leukemia	0.28 (0.28, 0.29)	0.29 (0.29, 0.30)	0.22 (0.21, 0.23)
Chronic Myeloid Leukemia	0.03 (0.03, 0.04)	0.04 (0.03, 0.04)	0.03 (0.02, 0.04)

Source: Devcan Version 6.7.8, April 2020, National Cancer Institute (https://surveillance.cancer.gov/devcan/).
NCHS public use data file for the total US.
A percent or confidence interval value of 0.00 represents a value that is below 0.005.

Table 1.19 - continued

Lifetime Risk (Percent) of Dying from Cancer by Site and Race/Ethnicity

Females, Total U.S., 2015-2017

Site	Asian/Pacific Islanders Percent (95% C.I.)	American Indian/ Alaska Natives[a] Percent (95% C.I.)	Hispanics[b] Percent (95% C.I.)
All Sites	15.90 (15.66, 16.15)	15.27 (14.69, 15.89)	15.42 (15.27, 15.58)
Oral Cavity and Pharynx	0.22 (0.19, 0.26)	0.17 (0.10, 0.30)	0.15 (0.13, 0.17)
Esophagus	0.13 (0.11, 0.16)	0.16 (0.11, 0.27)	0.13 (0.11, 0.14)
Stomach	0.82 (0.76, 0.89)	0.40 (0.31, 0.54)	0.63 (0.59, 0.66)
Colon and Rectum	1.71 (1.62, 1.80)	1.67 (1.46, 1.93)	1.53 (1.48, 1.59)
Liver and Intrahepatic Bile Duct	1.02 (0.96, 1.09)	0.89 (0.75, 1.07)	1.00 (0.96, 1.04)
Pancreas	1.42 (1.35, 1.50)	1.06 (0.89, 1.28)	1.35 (1.30, 1.40)
Larynx	0.02 (0.01, 0.04)	0.02 (0.01, 0.12)	0.02 (0.02, 0.03)
Lung and Bronchus	3.19 (3.08, 3.31)	3.41 (3.14, 3.73)	2.12 (2.06, 2.18)
Melanoma of the Skin	0.05 (0.04, 0.08)	0.06 (0.03, 0.16)	0.08 (0.07, 0.10)
Breast	1.78 (1.70, 1.86)	1.90 (1.68, 2.16)	2.02 (1.96, 2.08)
Cervix Uteri	0.24 (0.21, 0.27)	0.22 (0.17, 0.32)	0.30 (0.28, 0.32)
Corpus and Uterus, NOS	0.51 (0.47, 0.55)	0.41 (0.32, 0.55)	0.61 (0.58, 0.64)
Ovary	0.68 (0.64, 0.73)	0.74 (0.63, 0.90)	0.75 (0.71, 0.78)
Urinary Bladder	0.25 (0.21, 0.29)	0.24 (0.15, 0.39)	0.28 (0.26, 0.31)
Kidney and Renal Pelvis	0.21 (0.18, 0.24)	0.43 (0.33, 0.59)	0.38 (0.35, 0.41)
Brain and Other Nervous System	0.29 (0.26, 0.33)	0.25 (0.18, 0.38)	0.36 (0.34, 0.39)
Thyroid	0.14 (0.11, 0.17)	0.07 (0.02, 0.19)	0.12 (0.11, 0.14)
Hodgkin Lymphoma	0.02 (0.01, 0.03)	0.04 (0.01, 0.13)	0.05 (0.04, 0.06)
Non-Hodgkin Lymphoma	0.59 (0.54, 0.64)	0.41 (0.32, 0.56)	0.65 (0.62, 0.69)
Myeloma	0.25 (0.22, 0.28)	0.34 (0.25, 0.47)	0.37 (0.34, 0.39)
Leukemia	0.48 (0.43, 0.53)	0.32 (0.24, 0.46)	0.57 (0.54, 0.60)
Acute Lymphocytic Leukemia	0.04 (0.03, 0.06)	0.04 (0.02, 0.13)	0.07 (0.06, 0.08)
Chronic Lymphocytic Leukemia	0.03 (0.02, 0.05)	0.02 (0.01, 0.12)	0.07 (0.06, 0.08)
Acute Myeloid Leukemia	0.25 (0.22, 0.29)	0.16 (0.10, 0.27)	0.23 (0.21, 0.25)
Chronic Myeloid Leukemia	0.02 (0.01, 0.04)	0.01 (0.00, 0.10)	0.03 (0.02, 0.03)

Devcan Version 6.7.8, April 2020, National Cancer Institute (https://surveillance.cancer.gov/devcan/).
Source: NCHS public use data file for the total US.
[a] Underlying mortality data for American Indian/Alaska Native are based on the PRCDA (Purchased/Referred Care Delivery Areas) counties.
[b] Hispanic is not mutually exclusive from whites, blacks, Asian Pacific Islanders, and American Indians/Alaska Natives.
A percent or confidence interval value of 0.00 represents a value that is below 0.005.

Table 1.20
U.S. and SEER Death Rates by Primary Cancer Site and Race/Ethnicity, 2013-2017

		Total United States[a]							SEER 21 Areas[ab]						
Site		Total	White	Black	AI/AN[c]	API[d]	Hisp[e]	W-NHisp[e]	Total	White	Black	AI/AN[c]	API[d]	Hisp[e]	W-NHisp[e]
All Sites	Both Sexes	158.3	159.0	181.7	144.2	98.9	112.3	162.9	151.9	155.4	170.3	123.7	102.4	112.4	159.6
	Male	189.5	189.6	227.3	173.1	117.3	136.2	193.8	180.5	183.6	211.3	149.5	122.7	134.9	188.1
	Female	135.7	136.4	153.4	123.0	85.6	95.5	139.9	131.7	135.1	145.4	104.8	87.7	97.0	138.9
Oral Cavity & Pharynx	Both Sexes	2.5	2.5	2.7	2.2	2.0	1.5	2.6	2.4	2.4	2.5	1.8	2.1	1.6	2.5
	Male	3.9	3.9	4.5	3.5	3.1	2.4	4.0	3.7	3.8	4.0	3.2	3.3	2.5	3.9
	Female	1.3	1.4	1.3	1.1	1.1	0.8	1.4	1.3	1.3	1.3	-	1.2	0.8	1.4
Esophagus	Both Sexes	3.9	4.2	3.2	3.4	1.6	2.0	4.4	3.6	4.0	3.0	3.0	1.6	2.1	4.2
	Male	7.0	7.4	5.3	6.2	2.8	3.7	7.8	6.5	7.0	5.0	4.9	2.9	3.8	7.5
	Female	1.4	1.4	1.6	1.3	0.7	0.7	1.5	1.4	1.4	1.5	1.4	0.6	0.8	1.5
Stomach	Both Sexes	3.1	2.7	5.3	4.8	5.2	5.0	2.3	3.5	3.0	5.2	5.5	5.4	5.4	2.5
	Male	4.1	3.6	7.8	6.3	6.7	6.4	3.2	4.7	4.1	7.7	7.4	7.1	6.8	3.5
	Female	2.2	1.9	3.6	3.6	4.1	4.0	1.6	2.5	2.2	3.5	3.9	4.2	4.4	1.7
Colon & Rectum	Both Sexes	13.9	13.6	18.5	15.8	9.6	11.1	13.8	13.4	13.3	17.2	14.7	10.0	10.8	13.4
	Male	16.6	16.2	23.2	19.4	11.5	14.2	16.3	15.8	15.6	21.3	17.3	12.2	13.7	15.7
	Female	11.8	11.5	15.2	13.0	8.1	8.7	11.7	11.4	11.3	14.3	12.7	8.3	8.7	11.6
Liver & Intrahepatic Bile Duct	Both Sexes	6.6	6.2	8.4	10.6	9.1	9.3	5.8	6.8	6.3	8.0	9.2	9.3	9.5	5.7
	Male	9.6	9.0	13.2	14.8	13.5	13.3	8.4	10.0	9.2	12.7	12.2	13.9	13.6	8.3
	Female	4.0	3.8	4.8	7.1	5.6	6.0	3.5	4.1	3.9	4.6	6.5	5.6	6.2	3.5
Pancreas	Both Sexes	11.0	10.9	13.3	8.9	7.6	8.5	11.1	10.9	11.1	12.3	7.7	8.0	8.6	11.3
	Male	12.7	12.7	14.9	10.3	8.2	9.4	13.0	12.4	12.7	13.9	9.4	8.8	9.4	13.0
	Female	9.6	9.4	12.0	7.8	7.1	7.8	9.6	9.6	9.7	11.2	6.3	7.5	7.9	9.8
Larynx	Both Sexes	1.0	0.9	1.6	0.9	0.3	0.7	1.0	0.9	0.9	1.4	0.6	0.3	0.6	0.9
	Male	1.7	1.7	3.0	1.7	0.6	1.4	1.7	1.5	1.5	2.7	1.3	0.6	1.3	1.5
	Female	0.4	0.4	0.5	-	0.1	0.1	0.4	0.3	0.3	0.5	-	0.1	0.1	0.4
Lung & Bronchus	Both Sexes	40.2	41.0	42.3	33.4	22.2	17.6	43.4	36.1	37.4	37.8	24.1	23.0	16.6	40.2
	Male	49.3	49.4	58.8	40.1	29.3	24.2	51.8	43.6	44.1	52.1	31.0	31.1	22.2	46.8
	Female	33.2	34.5	31.1	28.4	16.9	12.7	36.8	30.4	32.4	28.3	18.9	16.9	12.6	35.1
Melanoma of the Skin	Both Sexes	2.4	2.8	0.3	0.7	0.3	0.7	3.0	2.2	2.7	0.3	0.6	0.3	0.6	3.1
	Male	3.5	4.1	0.4	1.0	0.4	0.9	4.5	3.3	4.0	0.4	-	0.4	0.9	4.5
	Female	1.5	1.7	0.3	0.5	0.3	0.5	1.9	1.4	1.7	0.2	-	0.3	0.5	1.9
Breast	Female	20.3	19.8	27.6	14.6	11.4	14.0	20.3	19.9	19.9	26.7	13.3	12.1	14.1	20.5

[a] US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention. Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

[b] The SEER 21 areas are San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts.

[c] Rates for American Indian/Alaska Native (AI/AN) are based on the Purchased/Referred Care Delivery Area (PRCDA) counties.

[d] Asian/Pacific Islander.

[e] Hispanic (Hisp) and White Non-Hispanic (W-NHisp) are not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives.

- Statistic could not be calculated due to less than 16 cases in the time interval.

Table 1.20 - continued
U.S. and SEER Death Rates by Primary Cancer Site and Race/Ethnicity, 2013-2017

		Total United States[a]							SEER 21 Areas[ab]						
Site		Total	White	Black	AI/AN[c]	API[d]	Hisp[e]	W-NHisp[e]	Total	White	Black	AI/AN[c]	API[d]	Hisp[e]	W-NHisp[e]
Cervix	Female	2.3	2.2	3.4	2.5	1.8	2.6	2.1	2.1	2.0	3.2	2.0	1.8	2.5	1.9
Corpus & Uterus, NOS	Female	4.8	4.5	8.6	3.4	3.2	4.0	4.5	5.1	4.8	8.7	3.1	3.3	4.2	4.7
Ovary	Female	6.9	7.1	6.0	6.3	4.4	5.2	7.3	7.0	7.4	5.9	5.1	4.5	5.4	7.6
Prostate	Male	19.1	17.9	37.9	18.7	8.6	15.8	18.0	19.3	18.6	36.9	16.2	9.0	16.6	18.7
Testis	Male	0.3	0.3	0.1	0.4	0.1	0.3	0.3	0.3	0.3	0.1	-	0.1	0.3	0.3
Urinary	Both Sexes	4.4	4.6	3.5	2.7	1.7	2.3	4.8	4.3	4.6	3.4	2.8	1.8	2.3	4.9
Bladder	Male	7.5	8.0	5.3	4.2	2.8	3.9	8.3	7.3	8.0	5.1	4.1	3.0	3.8	8.5
	Female	2.1	2.2	2.4	1.7	0.9	1.3	2.3	2.1	2.2	2.4	1.8	0.9	1.3	2.4
Kidney &	Both Sexes	3.7	3.8	3.6	5.5	1.7	3.5	3.8	3.4	3.6	3.1	4.6	1.9	3.2	3.6
Renal	Male	5.4	5.6	5.4	8.2	2.6	5.0	5.6	5.1	5.3	5.0	6.6	2.8	4.6	5.3
Pelvis	Female	2.3	2.4	2.2	3.4	1.1	2.2	2.4	2.1	2.3	1.8	3.1	1.2	2.1	2.3
Brain &	Both Sexes	4.4	4.8	2.6	2.5	2.2	3.0	5.1	4.3	4.8	2.5	2.3	2.3	3.0	5.1
Nervous	Male	5.4	5.8	3.2	2.8	2.6	3.5	6.1	5.3	5.9	3.1	2.8	2.6	3.6	6.2
System	Female	3.6	3.9	2.2	2.4	1.9	2.6	4.1	3.5	3.9	2.0	1.9	2.0	2.6	4.1
Thyroid	Both Sexes	0.5	0.5	0.5	0.5	0.6	0.6	0.5	0.6	0.6	0.5	-	0.6	0.7	0.5
	Male	0.5	0.5	0.4	0.6	0.5	0.6	0.5	0.6	0.6	0.4	-	0.5	0.7	0.6
	Female	0.5	0.5	0.6	0.4	0.7	0.7	0.5	0.6	0.5	0.5	-	0.7	0.7	0.5
Hodgkin	Both Sexes	0.3	0.3	0.3	0.2	0.1	0.4	0.3	0.3	0.3	0.2	-	0.2	0.4	0.3
Lymphoma	Male	0.4	0.4	0.3	-	0.2	0.5	0.4	0.4	0.4	0.3	-	0.2	0.5	0.4
	Female	0.2	0.2	0.2	-	0.1	0.3	0.2	0.2	0.3	0.2	-	0.1	0.3	0.2
Non-Hodgkin	Both Sexes	5.5	5.7	4.0	4.2	3.8	4.7	5.8	5.4	5.8	3.9	3.9	3.8	4.8	5.8
Lymphoma	Male	7.1	7.4	5.2	5.5	4.9	5.9	7.5	7.0	7.5	5.1	4.8	4.9	6.0	7.5
	Female	4.2	4.4	3.2	3.2	3.0	3.7	4.5	4.2	4.4	3.1	3.2	3.0	3.8	4.4
Myeloma	Both Sexes	3.3	3.0	6.2	3.2	1.6	2.7	3.0	3.2	3.0	5.7	3.0	1.6	2.7	3.0
	Male	4.1	3.9	7.5	3.6	2.0	3.4	3.9	4.0	3.9	6.9	2.9	2.0	3.3	3.9
	Female	2.6	2.4	5.3	3.0	1.2	2.2	2.3	2.5	2.4	5.0	3.2	1.2	2.3	2.3
Leukemia	Both Sexes	6.4	6.7	5.4	4.0	3.6	4.6	6.8	6.2	6.6	5.1	3.3	3.7	4.7	6.7
	Male	8.6	8.9	7.0	5.1	4.8	5.8	9.1	8.2	8.7	6.6	4.7	5.0	5.8	8.8
	Female	4.8	5.0	4.3	3.0	2.6	3.8	5.0	4.7	5.0	4.2	2.2	2.8	3.8	5.0

[a] US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention. Rates are per 100,000 and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

[b] The SEER 21 areas are San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts.

[c] Rates for American Indian/Alaska Native (AI/AN) are based on the Purchased/Referred Care Delivery Area (PRCDA) counties.

[d] Asian/Pacific Islander.

[e] Hispanic (Hisp) and White Non-Hispanic (W-NHisp) are not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives.

- Statistic could not be calculated due to less than 16 cases in the time interval.

Table 1.21
U.S. Prevalence Counts, Invasive Cancers Only, January 1, 2017[a]
Using Different Tumor Inclusion Criteria[b]

Site	Sex	5-Year Limited Duration: 1st Invasive Tumor Ever[c]	5-Year Limited Duration: 1st Per Site in Previous 25 Years[d]	5-Year Limited Duration: 1st Per Site in Previous 5 Years[e]	25-year Limited Duration: 1st Invasive Tumor Ever[c]	25-year Limited Duration: 1st Per Site in Previous 25 Years[d]
All Sites	Both Sexes	4,694,674	4,862,424	5,368,372	13,765,686	14,245,784
	Male	2,282,549	2,337,240	2,588,177	6,687,937	6,833,302
	Female	2,412,125	2,525,184	2,780,195	7,077,749	7,412,482
Oral Cavity & Pharynx	Both Sexes	120,057	142,267	147,944	299,078	338,743
	Male	86,288	100,445	103,999	207,083	231,393
	Female	33,769	41,822	43,945	91,995	107,350
Esophagus	Both Sexes	21,960	27,475	27,600	38,441	46,212
	Male	17,415	21,514	21,592	30,048	35,800
	Female	4,545	5,961	6,008	8,393	10,412
Stomach	Both Sexes	44,961	54,096	55,059	93,094	108,211
	Male	25,999	31,415	31,852	52,922	61,445
	Female	18,962	22,681	23,207	40,172	46,766
Colon & Rectum	Both Sexes	393,681	454,445	462,550	1,109,412	1,245,698
	Male	204,702	234,601	239,015	566,874	630,738
	Female	188,979	219,844	223,535	542,538	614,960
Liver & Intrahepatic Bile Duct	Both Sexes	51,270	59,777	60,065	76,638	86,978
	Male	36,730	42,403	42,628	54,559	61,209
	Female	14,540	17,374	17,437	22,079	25,769
Pancreas	Both Sexes	46,309	57,798	57,870	62,314	76,239
	Male	23,182	29,094	29,118	30,794	37,899
	Female	23,127	28,704	28,752	31,520	38,340
Larynx	Both Sexes	28,881	34,622	35,074	75,233	86,330
	Male	23,762	28,382	28,753	61,700	70,504
	Female	5,119	6,240	6,321	13,533	15,826
Lung & Bronchus	Both Sexes	235,457	309,793	322,244	404,633	517,130
	Male	106,454	141,260	146,081	176,811	226,337
	Female	129,003	168,533	176,163	227,822	290,793
Melanoma of the Skin	Both Sexes	304,831	357,073	377,941	947,509	1,059,689
	Male	168,743	201,335	215,605	494,706	560,036
	Female	136,088	155,738	162,336	452,803	499,653
Breast	Female	934,184	1,030,280	1,093,384	2,983,076	3,238,158
Cervix	Female	41,009	43,477	43,662	177,813	187,161
Corpus & Uterus, NOS	Female	207,865	233,888	234,170	605,534	669,026
Ovary[f]	Female	62,580	71,602	71,671	163,605	185,902

[a] U.S. 2017 cancer prevalence counts are based on 2017 cancer prevalence proportions from the SEER 13 registries (not including the Alaska Natives Registry) and 1/1/2017 U.S. population estimates based on the average of 2016 and 2017 population estimates from the U.S. Bureau of the Census.

[b] Prevalence estimates are ambiguous for those with multiple cancers, unless the tumor inclusion criteria are understood. Depending on the application, different inclusion criteria may be appropriate. This table provides three different methods of tumor inclusion:

[c] (c) First invasive tumor ever

[d] (d) First invasive tumor for each cancer site diagnosed during the previous 25 years (1992-2016)

[e] (e) First invasive tumor for each cancer site diagnosed during the previous 5 years (2012-2016)

For definitions (d) and (e) all sites is treated as a separate cancer "site".

Consider a woman who had three invasive cancers: Melanoma in 1981; Breast cancer in 2011; Melanoma in 2012.
In method (c) the melanoma is the woman's first cancer, and is counted for the melanoma and all sites 25-year limited duration prevalence. For 5-year limited duration prevalence, the woman is not counted at all since her first cancer occurred more than 5 years prior to 1/1/2017.
In method (d) the 1981 melanoma is counted for the melanoma and all sites 25-year limited duration prevalence. The 2011 breast cancer is counted for the breast 5-year and 25-year limited duration prevalence.
In method (e) the 2011 breast cancer is counted for the breast cancer and all sites 5-year limited duration prevalence. The 2012 melanoma is counted for 5-year limited duration prevalence for melanoma.

[f] Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

Table 1.21 - continued
U.S. Prevalence Counts, Invasive Cancers Only, January 1, 2017[a]
Using Different Tumor Inclusion Criteria[b]

Site	Sex	5-Year Limited Duration: 1st Invasive Tumor Ever[c]	5-Year Limited Duration: 1st Per Site in Previous 25 Years[d]	5-Year Limited Duration: 1st Per Site in Previous 5 Years[e]	25-year Limited Duration: 1st Invasive Tumor Ever[c]	25-year Limited Duration: 1st Per Site in Previous 25 Years[d]
Prostate	Male	826,957	899,952	900,065	2,947,256	3,135,696
Testis	Male	44,299	45,174	45,735	188,754	192,368
Urinary Bladder	Both Sexes	205,069	259,089	265,383	544,685	650,099
	Male	158,030	199,816	204,940	412,612	491,986
	Female	47,039	59,273	60,443	132,073	158,113
Kidney & Renal Pelvis	Both Sexes	174,099	212,583	216,157	429,086	506,214
	Male	109,433	134,507	136,896	262,352	311,337
	Female	64,666	78,076	79,261	166,734	194,877
Brain & Nervous System	Both Sexes	44,058	47,742	48,179	124,488	130,154
	Male	24,122	26,273	26,512	66,150	69,020
	Female	19,936	21,469	21,667	58,338	61,134
Thyroid	Both Sexes	205,164	231,795	232,442	626,450	686,101
	Male	47,695	56,430	56,607	136,046	153,550
	Female	157,469	175,365	175,835	490,404	532,551
Hodgkin Lymphoma	Both Sexes	35,390	37,895	37,934	146,597	152,671
	Male	19,614	21,106	21,121	77,114	80,200
	Female	15,776	16,789	16,813	69,483	72,471
Non-Hodgkin Lymphoma	Both Sexes	215,280	255,990	261,800	592,703	672,980
	Male	116,184	138,777	141,872	315,105	357,483
	Female	99,096	117,213	119,928	277,598	315,497
Myeloma	Both Sexes	69,911	83,010	83,603	119,296	138,415
	Male	38,921	46,820	47,227	65,614	76,989
	Female	30,990	36,190	36,376	53,682	61,426
Leukemia	Both Sexes	133,638	157,351	157,915	354,813	397,501
	Male	78,659	92,899	93,286	205,064	229,436
	Female	54,979	64,452	64,629	149,749	168,065
Acute Lymphocytic Leukemia	Both Sexes	20,023	20,834	20,842	73,043	74,301
	Male	11,256	11,629	11,629	40,913	41,431
	Female	8,767	9,205	9,213	32,130	32,870
Childhood (Ages 0-19)	Both Sexes	67,519	67,629	68,185	276,483	277,186
	Male	35,671	35,727	36,023	145,459	145,799
	Female	31,848	31,902	32,162	131,024	131,387
Kaposi Sarcoma	Both Sexes	7,443	8,124	8,124	32,836	34,496
	Male	6,804	7,385	7,385	31,200	32,656
	Female	639	739	739	1,636	1,840
Mesothelioma	Both Sexes	3,052	4,124	4,124	4,509	5,804
	Male	2,173	2,902	2,902	2,877	3,706
	Female	879	1,222	1,222	1,632	2,098

[a] U.S. 2017 cancer prevalence counts are based on 2017 cancer prevalence proportions from the SEER 9 registries and 1/1/2017 U.S. population estimates based on the average of 2016 and 2017 population estimates from the U.S. Bureau of the Census.

[b] Prevalence estimates are ambiguous for those with multiple cancers, unless the tumor inclusion criteria are understood. Depending on the application, different inclusion criteria may be appropriate. This table provides three different methods of tumor inclusion:

[c] (c) First invasive tumor ever

[d] (d) First invasive tumor for each cancer site diagnosed during the previous 25 years (1992-2016)

[e] (e) First invasive tumor for each cancer site diagnosed during the previous 5 years (2012-2016)

For definitions (d) and (e) all sites is treated as a separate cancer "site".

Consider a woman who had three invasive cancers: Melanoma in 1981; Breast cancer in 2011; Melanoma in 2012.
In method (c) the melanoma is the woman's first cancer, and is counted for the melanoma and all sites 25-year limited duration prevalence. For 5-year limited duration prevalence, the woman is not counted at all since her first cancer occurred more than 5 years prior to 1/1/2017.
In method (d) the 1981 melanoma is counted for the melanoma and all sites 25-year limited duration prevalence. The 2011 breast cancer is counted for the breast 5-year and 25-year limited duration prevalence.
In method (e) the 2011 breast cancer is counted for the breast cancer and all sites 5-year limited duration prevalence. The 2012 melanoma is counted for 5-year limited duration prevalence for melanoma.

Table 1.22
U.S. Complete Prevalence Counts, Invasive Cancers Only, January 1, 2017[a]
By Age at Prevalence

Site/Sex	Age at Prevalence								
	All Ages[c]	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70+
All Sites									
Males	7,230,811	18,934	46,984	94,237	173,576	326,188	902,270	1,935,304	3,733,319
Females	8,530,128	17,349	39,559	94,470	259,031	636,411	1,465,468	2,240,404	3,777,436
Oral Cavity & Pharynx									
Males	259,578	80	482	1,460	3,675	12,709	49,144	87,698	104,331
Females	123,837	51	544	1,575	3,809	8,476	20,800	33,291	55,292
Esophagus									
Males	36,777	0	0	42	151	795	4,550	12,056	19,184
Females	10,912	0	0	20	65	253	1,097	3,206	6,272
Stomach									
Males	66,182	0	24	166	855	2,646	8,956	17,838	35,697
Females	50,343	0	34	194	930	2,690	7,429	12,178	26,888
Colon & Rectum									
Males	673,580	0	496	1,677	7,391	26,870	97,594	174,856	364,694
Females	674,507	23	682	2,187	7,535	26,276	87,486	150,342	399,977
Liver & Intrahep									
Males	62,044	655	798	587	548	1,709	10,458	29,467	17,822
Females	27,905	590	662	429	612	1,187	4,084	9,773	10,570
Pancreas									
Males	39,194	15	73	94	564	1,763	6,302	12,922	17,461
Females	39,775	0	94	402	863	2,421	6,224	11,571	18,201
Larynx									
Males	78,873	5	0	95	280	1,443	8,601	22,512	45,936
Females	17,359	0	8	38	170	659	2,894	5,328	8,262
Lung & Bronchus									
Males	248,102	68	114	402	1,276	4,402	23,436	68,436	149,967
Females	310,148	76	61	490	1,539	5,870	32,698	79,250	190,163
Melanoma of the Skin									
Males	637,311	46	604	4,254	16,376	39,626	99,300	171,806	305,299
Females	607,965	117	750	7,851	32,663	66,779	126,153	154,077	219,573

[a] U.S. 2017 cancer prevalence counts are based on 2017 cancer prevalence proportions from the SEER 13 areas not including the Alaska Natives Registry (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, Rural Georgia, San Jose-Monterey, and Los Angeles) and 1/1/2017 U.S. population estimates based on the average of 2016 and 2017 population estimates from the U.S. Bureau of the Census.
Prevalence was calculated using the first invasive tumor for each cancer site diagnosed during the previous 25 years.
[b] Cases diagnosed more than 25 years ago were estimated using the completeness index method (Capocaccia et. al. 1997, Merrill et. al. 2000).
[c] Due to rounding, the sum of the age specific estimates may not equal the all ages estimate.

Table 1.22 - continued
U.S. Complete Prevalence Counts, Invasive Cancers Only, January 1, 2017[a]
By Age at Prevalence

Site/Sex	Age at Prevalence								
	All Ages[c]	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70+
Breast									
Males	20,067	0	0	4	165	519	2,262	4,978	12,140
Females	3,577,264	16	24	3,230	40,990	208,462	607,256	993,294	1,723,992
Cervix									
Females	291,704	0	41	1,728	14,721	40,501	66,065	73,541	95,106
Corpus & Uterus, NOS									
Females	793,846	6	14	838	7,570	29,736	102,263	234,589	418,829
Ovary[d]									
Females	233,364	83	1,178	4,391	8,781	19,078	45,975	66,047	87,831
Prostate									
Males	3,170,339	24	52	62	160	12,636	211,872	862,584	2,082,949
Urinary Bladder									
Males	535,940	84	102	592	2,304	8,502	39,063	120,315	364,978
Females	176,673	41	66	252	1,015	2,920	13,121	36,108	123,151
Kidney & Renal Pelvis									
Males	341,611	1,528	2,135	2,586	9,504	22,714	56,901	96,822	149,421
Females	216,412	1,787	2,512	3,256	6,978	15,461	34,092	55,594	96,732
Hodgkin Lymphoma									
Males	110,766	177	2,445	10,164	15,563	21,243	26,759	21,198	13,218
Females	104,765	51	1,761	9,008	16,706	20,866	25,039	18,466	12,868
Non-Hodgkin Lymphoma									
Males	381,435	1,018	4,007	8,235	14,539	27,966	61,937	98,040	165,695
Females	338,396	508	1,908	4,789	10,313	21,172	49,161	85,062	165,484
Myeloma									
Males	77,901	0	16	71	715	3,571	11,603	24,109	37,814
Females	62,878	3	17	59	457	2,739	9,316	19,330	30,957
Leukemia									
Males	247,369	6,938	15,759	17,357	13,215	17,531	32,152	54,022	90,393
Females	187,613	6,288	12,094	14,087	11,579	14,414	23,064	35,985	70,102
Acute Lymphocytic Leuk									
Males	54,552	5,780	13,274	13,580	8,828	7,000	3,705	1,625	760
Females	45,460	5,211	10,348	10,530	7,782	5,730	3,314	1,563	982

[a] U.S. 2017 cancer prevalence counts are based on 2017 cancer prevalence proportions from the SEER 13 areas not including the Alaska Natives Registry (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, Rural Georgia, San Jose-Monterey, and Los Angeles) and 1/1/2017 U.S. population estimates based on the average of 2016 and 2017 population estimates from the U.S. Bureau of the Census.
Prevalence was calculated using the first invasive tumor for each cancer site diagnosed during the previous 25 years.
[b] Cases diagnosed more than 25 years ago were estimated using the completeness index method (Capocaccia et. al. 1997, Merrill et. al. 2000).
[c] Due to rounding, the sum of the age specific estimates may not equal the all ages estimate.

Table 1.23
Age-Adjusted SEER Incidence Rates and Trends for the Top 15 Cancer Sites[a] by Race/Ethnicity

Both Sexes

All Races

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	442.4	-1.1*
Breast	68.9	0.0
Lung and Bronchus	54.2	-2.2*
Prostate[f]	50.2	-4.3*
Colon and Rectum	38.2	-2.3*
Melanoma of the Skin	22.7	1.2*
Urinary Bladder	20.0	-1.4*
Non-Hodgkin Lymphoma	19.6	-0.8*
Kidney and Renal Pelvis	16.3	0.4*
Thyroid	15.7	1.0
Corpus and Uterus, NOS[f]	14.8	0.9*
Leukemia	14.1	-0.3
Pancreas	13.1	0.5*
Oral Cavity and Pharynx	11.4	0.5*
Liver & IBD[g]	9.0	1.4*
Stomach	7.3	-0.8*

White

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	452.1	-1.1*
Breast	69.5	-0.2
Lung and Bronchus	56.0	-2.2*
Prostate[f]	47.3	-4.8*
Colon and Rectum	37.8	-2.2*
Melanoma of the Skin	27.2	1.3*
Urinary Bladder	22.0	-1.4*
Non-Hodgkin Lymphoma	20.6	-0.8*
Kidney and Renal Pelvis	16.8	0.5*
Thyroid	16.4	0.7
Leukemia	15.0	-0.4
Corpus and Uterus, NOS[f]	14.9	0.6*
Pancreas	13.1	0.5*
Oral Cavity and Pharynx	12.0	0.6*
Liver & IBD[g]	8.1	1.9*
Brain and ONS[g]	7.1	-0.7*

Black

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	440.4	-1.6*
Prostate[f]	74.4	-4.2*
Breast	71.3	0.2
Lung and Bronchus	54.8	-2.7*
Colon and Rectum	43.6	-3.0*
Kidney and Renal Pelvis	17.5	0.1
Corpus and Uterus, NOS[f]	15.9	1.5*
Pancreas	15.3	0.1
Non-Hodgkin Lymphoma	14.7	-0.5*
Myeloma	13.8	0.3
Urinary Bladder	11.8	-0.8*
Leukemia	10.8	0.3
Liver & IBD[g]	10.7	0.7
Stomach	10.1	-2.1*
Thyroid	9.5	1.3
Oral Cavity and Pharynx	8.5	-1.2*

Asian/Pacific Islander

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	302.1	-0.8*
Breast	56.3	1.2*
Lung and Bronchus	36.2	-1.1*
Colon and Rectum	31.8	-2.5*
Prostate[f]	25.1	-4.9*
Thyroid	15.8	1.2*
Non-Hodgkin Lymphoma	13.5	-0.5
Liver & IBD[g]	12.9	-2.2*
Corpus and Uterus, NOS[f]	11.8	1.9*
Stomach	10.6	-2.6*
Pancreas	10.0	0.3
Urinary Bladder	8.9	-0.9*
Kidney and Renal Pelvis	8.8	0.8
Oral Cavity and Pharynx	8.5	0.4
Leukemia	8.0	-0.4
Ovary[fh]	5.1	-1.0

American Indian/Alaska Native[d]

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	310.1	-1.0*
Breast	42.7	-0.5
Colon and Rectum	39.0	-1.1
Lung and Bronchus	38.1	-1.8*
Prostate[f]	24.3	-5.4*
Kidney and Renal Pelvis	17.9	-0.3
Liver & IBD[g]	14.9	1.2
Non-Hodgkin Lymphoma	10.9	-3.3*
Corpus and Uterus, NOS[f]	10.6	-0.8
Pancreas	10.0	1.1
Urinary Bladder	9.6	1.6
Thyroid	9.3	2.3*
Stomach	8.4	-1.3
Oral Cavity and Pharynx	8.1	-0.4
Leukemia	8.1	-0.8
Myeloma	5.7	2.9

Hispanic[e]

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	348.4	-1.1*
Breast	53.2	0.4
Prostate[f]	40.7	-5.5*
Colon and Rectum	33.7	-1.8*
Lung and Bronchus	29.0	-2.2*
Non-Hodgkin Lymphoma	18.1	-0.4*
Kidney and Renal Pelvis	16.1	1.0*
Thyroid	14.2	2.3*
Liver & IBD[g]	13.7	0.6
Corpus and Uterus, NOS[f]	13.1	2.1*
Pancreas	11.6	0.1
Urinary Bladder	11.0	-1.5*
Leukemia	10.9	-0.6
Stomach	10.5	-1.2*
Oral Cavity and Pharynx	6.8	-1.2*
Myeloma	6.8	0.2

Source: SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

[a] Top 15 cancer sites selected based on 2013-2017 age-adjusted rates for the race/ethnic group.

[b] Rates are per 100,000 and age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

[c] The APC is the Annual Percent Change over the time interval.
Trends are based on rates age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

[d] Rates for American Indian/Alaska Native are based on the Purchased/Referred Care Delivery Area (PRCDA) counties.

[e] Hispanic is not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives.
Incidence data for Hispanics are based on NHIA and exclude cases from the Alaska Native Registry.

[f] The rates for sex-specific cancer sites are calculated using the population for both sexes combined.

[g] IBD = Intrahepatic Bile Duct. ONS = Other Nervous System.

[h] Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

* The APC is significantly different from zero (p<.05).

- Statistic not shown. Rate based on less than 16 cases for the time interval. Trend based on less than 10 cases for at least one year within the time interval.

Table 1.24
Age-Adjusted SEER Incidence Rates and Trends for the Top 15 Cancer Sites[a] by Race/Ethnicity

Males

All Races

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	480.3	-1.9*
Prostate	109.8	-4.5*
Lung and Bronchus	61.7	-2.9*
Colon and Rectum	43.7	-2.4*
Urinary Bladder	34.9	-1.6*
Melanoma of the Skin	29.3	1.1*
Non-Hodgkin Lymphoma	23.8	-0.8*
Kidney and Renal Pelvis	22.4	0.4
Leukemia	18.1	-0.4
Oral Cavity and Pharynx	17.2	0.6*
Pancreas	14.9	0.5*
Liver & IBD[f]	13.8	1.1*
Stomach	9.9	-1.3*
Myeloma	8.8	0.6
Thyroid	8.1	1.5*
Brain and ONS[f]	7.5	-0.8*

White

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	485.5	-1.9*
Prostate	102.3	-5.0*
Lung and Bronchus	62.2	-2.9*
Colon and Rectum	43.0	-2.4*
Urinary Bladder	38.2	-1.6*
Melanoma of the Skin	34.6	1.2*
Non-Hodgkin Lymphoma	25.0	-0.8*
Kidney and Renal Pelvis	23.0	0.4
Leukemia	19.2	-0.5
Oral Cavity and Pharynx	18.1	0.8*
Pancreas	15.0	0.6*
Liver & IBD[f]	12.4	1.5*
Stomach	8.9	-1.4*
Thyroid	8.6	1.4*
Brain and ONS[f]	8.3	-0.8*
Myeloma	8.2	0.5

Black

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	515.1	-2.7*
Prostate	175.2	-4.5*
Lung and Bronchus	71.2	-3.5*
Colon and Rectum	51.3	-3.0*
Kidney and Renal Pelvis	24.5	0.1
Urinary Bladder	19.7	-1.1*
Liver & IBD[f]	17.7	0.7
Non-Hodgkin Lymphoma	17.7	-1.0*
Pancreas	16.9	-0.1
Myeloma	16.5	0.2
Stomach	13.8	-2.3*
Leukemia	13.6	-0.1
Oral Cavity and Pharynx	13.3	-1.3*
Larynx	7.3	-3.1*
Esophagus	6.1	-4.5*
Brain and ONS[f]	4.5	-1.1

Asian/Pacific Islander

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	304.4	-1.9*
Prostate	56.7	-5.0*
Lung and Bronchus	46.2	-1.9*
Colon and Rectum	37.9	-2.2*
Liver & IBD[f]	19.9	-2.1*
Non-Hodgkin Lymphoma	16.5	-0.5
Urinary Bladder	15.7	-0.9*
Stomach	14.1	-2.5*
Kidney and Renal Pelvis	12.5	0.6
Oral Cavity and Pharynx	12.1	0.1
Pancreas	11.0	0.3
Leukemia	9.9	-0.3
Thyroid	7.9	2.8*
Myeloma	5.0	0.1
Brain and ONS[f]	4.5	0.0
Esophagus	3.7	-0.4

American Indian/Alaska Native[d]

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	321.0	-1.6*
Prostate	54.6	-5.4*
Lung and Bronchus	43.5	-2.6*
Colon and Rectum	40.4	-2.4*
Kidney and Renal Pelvis	22.9	-0.8
Liver & IBD[f]	21.6	1.4
Urinary Bladder	16.3	0.5
Pancreas	12.9	2.8
Oral Cavity and Pharynx	11.7	-0.3
Stomach	11.1	-1.8
Non-Hodgkin Lymphoma	10.8	-5.2*
Leukemia	10.7	1.2
Myeloma	6.7	-
Esophagus	6.2	-
Melanoma of the Skin	5.9	-
Testis	5.2	1.3

Hispanic[e]

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	370.4	-2.5*
Prostate	92.0	-5.8*
Colon and Rectum	39.6	-2.5*
Lung and Bronchus	35.1	-3.2*
Kidney and Renal Pelvis	21.4	0.8
Non-Hodgkin Lymphoma	20.9	-0.6
Liver & IBD[f]	20.3	0.1
Urinary Bladder	19.3	-1.6*
Leukemia	13.2	-0.7
Stomach	13.1	-2.2*
Pancreas	12.5	0.0
Oral Cavity and Pharynx	10.0	-1.4
Myeloma	8.2	-0.1
Thyroid	5.9	3.0*
Brain and ONS[f]	5.9	-0.7
Testis	5.4	2.0*

Source: SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

[a] Top 15 cancer sites selected based on 2013-2017 age-adjusted rates for the race/ethnic group.

[b] Rates are per 100,000 and age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

[c] The APC is the Annual Percent Change over the time interval.
Trends are based on rates age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

[d] Rates for American Indian/Alaska Native are based on the Purchased/Referred Care Delivery Area (PRCDA) counties.

[e] Hispanic is not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives.
Incidence data for Hispanics are based on NHIA and exclude cases from the Alaska Native Registry.

[f] IBD = Intrahepatic Bile Duct. ONS = Other Nervous System.

* The APC is significantly different from zero (p<.05).

- Statistic not shown. Rate based on less than 16 cases for the time interval. Trend based on less than 10 cases for at least one year within the time interval.

Table 1.25
Age-Adjusted SEER Incidence Rates and Trends for the Top 15 Cancer Sites[a] by Race/Ethnicity

Females

All Races

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	418.3	-0.3*
Breast	128.5	0.2
Lung and Bronchus	48.6	-1.5*
Colon and Rectum	33.6	-2.2*
Corpus and Uterus, NOS	27.8	1.0*
Thyroid	23.1	0.8
Melanoma of the Skin	17.8	1.3*
Non-Hodgkin Lymphoma	16.2	-0.8*
Pancreas	11.6	0.4*
Ovary[g]	11.2	-2.1*
Kidney and Renal Pelvis	11.1	0.3
Leukemia	11.0	-0.3
Urinary Bladder	8.6	-1.5*
Cervix Uteri	7.4	-0.7
Oral Cavity and Pharynx	6.4	0.1
Myeloma	5.7	0.6*

White

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	432.0	-0.4*
Breast	131.3	0.0
Lung and Bronchus	51.5	-1.5*
Colon and Rectum	33.3	-2.0*
Corpus and Uterus, NOS	28.3	0.7*
Thyroid	24.3	0.6
Melanoma of the Skin	21.7	1.4*
Non-Hodgkin Lymphoma	17.0	-0.9*
Ovary[g]	11.7	-2.4*
Leukemia	11.6	-0.4
Pancreas	11.6	0.4
Kidney and Renal Pelvis	11.4	0.4
Urinary Bladder	9.4	-1.5*
Cervix Uteri	7.2	-0.7
Oral Cavity and Pharynx	6.6	0.2
Brain and ONS[f]	6.0	-0.6

Black

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	390.7	-0.4*
Breast	124.8	0.3
Lung and Bronchus	43.8	-2.0*
Colon and Rectum	38.2	-3.0*
Corpus and Uterus, NOS	27.9	1.7*
Thyroid	14.3	1.5
Pancreas	14.1	0.3
Non-Hodgkin Lymphoma	12.5	0.0
Kidney and Renal Pelvis	12.2	-0.2
Myeloma	12.0	0.3
Ovary[g]	9.1	-1.4*
Leukemia	8.9	0.7
Cervix Uteri	8.7	-2.4*
Stomach	7.6	-2.1*
Urinary Bladder	6.5	-0.4
Liver & IBD[f]	5.4	0.8

Asian/Pacific Islander

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	304.7	0.0
Breast	102.9	1.2*
Lung and Bronchus	28.6	-0.2
Colon and Rectum	26.8	-3.0*
Thyroid	22.7	0.8
Corpus and Uterus, NOS	21.7	1.9*
Non-Hodgkin Lymphoma	11.1	-0.6
Ovary[g]	9.5	-1.0
Pancreas	9.2	0.2
Stomach	8.0	-2.9*
Liver & IBD[f]	7.2	-2.5*
Leukemia	6.5	-0.8
Cervix Uteri	6.5	-0.5
Kidney and Renal Pelvis	5.8	1.0
Oral Cavity and Pharynx	5.5	1.0
Urinary Bladder	3.8	-1.6*

American Indian/Alaska Native[d]

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	305.9	-0.4
Breast	79.5	-0.5
Colon and Rectum	37.9	0.0
Lung and Bronchus	34.3	-1.0
Corpus and Uterus, NOS	19.9	-0.8
Thyroid	14.5	2.6*
Kidney and Renal Pelvis	13.7	-0.1
Non-Hodgkin Lymphoma	10.9	-1.2
Liver & IBD[f]	9.0	0.7
Ovary[g]	8.4	-3.2
Cervix Uteri	7.9	0.4
Pancreas	7.8	-0.6
Stomach	6.2	-1.1
Leukemia	6.0	-3.4
Myeloma	5.0	-0.2
Melanoma of the Skin	5.0	-

Hispanic[e]

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	339.5	0.2
Breast	99.1	0.6*
Colon and Rectum	29.2	-1.1*
Lung and Bronchus	24.8	-1.2*
Corpus and Uterus, NOS	24.6	2.4*
Thyroid	22.3	2.3*
Non-Hodgkin Lymphoma	15.9	-0.2
Kidney and Renal Pelvis	11.7	1.1*
Pancreas	10.8	0.2
Ovary[g]	10.4	-0.9*
Cervix Uteri	9.2	-1.9*
Leukemia	9.1	-0.6
Stomach	8.6	-0.2
Liver & IBD[f]	8.1	1.6*
Myeloma	5.7	0.3
Urinary Bladder	5.0	-1.9*

Source: SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).

[a] Top 15 cancer sites selected based on 2013-2017 age-adjusted rates for the race/ethnic group.

[b] Rates are per 100,000 and age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

[c] The APC is the Annual Percent Change over the time interval.
Trends are based on rates age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

[d] Rates for American Indian/Alaska Native are based on the Purchased/Referred Care Delivery Area (PRCDA) counties.

[e] Hispanic is not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives.
Incidence data for Hispanics are based on NHIA and exclude cases from the Alaska Native Registry.

[f] IBD = Intrahepatic Bile Duct. ONS = Other Nervous System.

[g] Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

* The APC is significantly different from zero (p<.05).

- Statistic not shown. Rate based on less than 16 cases for the time interval. Trend based on less than 10 cases for at least one year within the time interval.

Table 1.26
Age-Adjusted U.S. Death Rates and Trends for the Top 15 Cancer Sites[a] by Race/Ethnicity

Both Sexes

All Races

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	158.3	-1.6*
Lung and Bronchus	40.2	-3.2*
Colon and Rectum	13.9	-2.1*
Breast	11.3	-1.6*
Pancreas	11.0	0.2
Prostate[f]	7.8	-1.5*
Liver & IBD[g]	6.6	2.0*
Leukemia	6.4	-1.6*
Non-Hodgkin Lymphoma	5.5	-2.2*
Brain and ONS[g]	4.4	0.5*
Urinary Bladder	4.4	-0.3*
Esophagus	3.9	-1.1*
Ovary[f]	3.8	-2.4*
Kidney and Renal Pelvis	3.7	-1.2*
Myeloma	3.3	-0.4
Stomach	3.1	-2.0*

White

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	159.0	-1.4*
Lung and Bronchus	41.0	-3.1*
Colon and Rectum	13.6	-2.0*
Pancreas	10.9	0.3*
Breast	10.9	-1.6*
Prostate[f]	7.4	-1.3*
Leukemia	6.7	-1.5*
Liver & IBD[g]	6.2	2.3*
Non-Hodgkin Lymphoma	5.7	-2.1*
Brain and ONS[g]	4.8	0.6*
Urinary Bladder	4.6	-0.1
Esophagus	4.2	-0.6*
Ovary[f]	3.9	-2.5*
Kidney and Renal Pelvis	3.8	-1.0*
Myeloma	3.0	-0.4
Melanoma of the Skin	2.8	-2.6*

Black

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	181.7	-2.1*
Lung and Bronchus	42.3	-3.6*
Colon and Rectum	18.5	-2.8*
Breast	16.2	-1.7*
Prostate[f]	14.0	-3.0*
Pancreas	13.3	-0.3*
Liver & IBD[g]	8.4	1.4*
Myeloma	6.2	-0.4
Leukemia	5.4	-2.0*
Stomach	5.3	-3.4*
Corpus and Uterus, NOS[f]	5.0	2.0*
Non-Hodgkin Lymphoma	4.0	-1.6*
Kidney and Renal Pelvis	3.6	-1.3*
Ovary[f]	3.5	-2.1*
Urinary Bladder	3.5	-0.3
Esophagus	3.2	-4.6*

Asian/Pacific Islander

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	98.9	-1.4*
Lung and Bronchus	22.2	-2.3*
Colon and Rectum	9.6	-2.3*
Liver & IBD[g]	9.1	-1.6*
Pancreas	7.6	-0.4
Breast	6.4	0.1
Stomach	5.2	-2.9*
Non-Hodgkin Lymphoma	3.8	-1.5*
Leukemia	3.6	-1.7*
Prostate[f]	3.5	-1.4*
Ovary[f]	2.5	-1.0
Brain and ONS[g]	2.2	2.1*
Oral Cavity and Pharynx	2.0	0.6
Corpus and Uterus, NOS[f]	1.8	2.9*
Kidney and Renal Pelvis	1.7	-2.0*
Urinary Bladder	1.7	-0.5

American Indian/Alaska Native[d]

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	144.2	-1.4*
Lung and Bronchus	33.4	-3.2*
Colon and Rectum	15.8	-1.8
Liver & IBD[g]	10.6	2.0*
Pancreas	8.9	1.0
Breast	8.1	0.3
Prostate[f]	7.7	-1.3
Kidney and Renal Pelvis	5.5	-3.5*
Stomach	4.8	-1.1
Non-Hodgkin Lymphoma	4.2	-1.4
Leukemia	4.0	-2.8
Ovary[f]	3.5	-0.7
Esophagus	3.4	-0.2
Myeloma	3.2	1.9
Urinary Bladder	2.7	1.0
Brain and ONS[g]	2.5	-0.9

Hispanic[e]

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	112.3	-1.2*
Lung and Bronchus	17.6	-3.1*
Colon and Rectum	11.1	-1.9*
Liver & IBD[g]	9.3	0.9*
Pancreas	8.5	-0.2
Breast	7.8	-1.0*
Prostate[f]	6.4	-1.8*
Stomach	5.0	-1.7*
Non-Hodgkin Lymphoma	4.7	-2.0*
Leukemia	4.6	-1.2*
Kidney and Renal Pelvis	3.5	-0.2
Brain and ONS[g]	3.0	1.2*
Ovary[f]	2.9	-1.7*
Myeloma	2.7	-0.4
Urinary Bladder	2.3	0.3
Corpus and Uterus, NOS[f]	2.2	2.4*

Source: US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.
[a] Top 15 cancer sites selected based on 2013-2017 age-adjusted rates for the race/ethnic group.
[b] Rates are per 100,000 and age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).
[c] The APC is the Annual Percent Change over the time interval.
Trends are based on rates age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).
[d] Rates for American Indian/Alaska Native are based on the Purchased/Referred Care Delivery Area (PRCDA) counties.
[e] Hispanic is not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives.
[f] The rates for sex-specific cancer sites are calculated using the population for both sexes combined.
[g] IBD = Intrahepatic Bile Duct. ONS = Other Nervous System.
* The APC is significantly different from zero (p<.05).
- Statistic not shown. Rate based on less than 16 cases for the time interval. Trend based on less than 10 cases for at least one year within the time interval.

Table 1.27
Age-Adjusted U.S. Death Rates and Trends for the Top 15 Cancer Sites[a] by Race/Ethnicity

Males

All Races

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	189.5	-1.8*
Lung and Bronchus	49.3	-3.8*
Prostate	19.1	-2.2*
Colon and Rectum	16.6	-2.2*
Pancreas	12.7	0.3*
Liver & IBD[f]	9.6	1.7*
Leukemia	8.6	-1.8*
Urinary Bladder	7.5	-0.4*
Non-Hodgkin Lymphoma	7.1	-2.0*
Esophagus	7.0	-1.2*
Kidney and Renal Pelvis	5.4	-1.1*
Brain and ONS[f]	5.4	0.4
Myeloma	4.1	-0.5*
Stomach	4.1	-2.3*
Oral Cavity and Pharynx	3.9	0.9*
Melanoma of the Skin	3.5	-2.9*

White

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	189.6	-1.7*
Lung and Bronchus	49.4	-3.7*
Prostate	17.9	-2.0*
Colon and Rectum	16.2	-2.2*
Pancreas	12.7	0.4*
Liver & IBD[f]	9.0	2.0*
Leukemia	8.9	-1.6*
Urinary Bladder	8.0	-0.3*
Esophagus	7.4	-0.7*
Non-Hodgkin Lymphoma	7.4	-2.0*
Brain and ONS[f]	5.8	0.5*
Kidney and Renal Pelvis	5.6	-1.0*
Melanoma of the Skin	4.1	-2.7*
Myeloma	3.9	-0.5*
Oral Cavity and Pharynx	3.9	1.3*
Stomach	3.6	-2.3*

Black

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	227.3	-2.7*
Lung and Bronchus	58.8	-4.3*
Prostate	37.9	-3.7*
Colon and Rectum	23.2	-2.8*
Pancreas	14.9	-0.2
Liver & IBD[f]	13.2	1.1*
Stomach	7.8	-3.2*
Myeloma	7.5	-0.6
Leukemia	7.0	-2.7*
Kidney and Renal Pelvis	5.4	-0.8
Urinary Bladder	5.3	0.0
Esophagus	5.3	-5.1*
Non-Hodgkin Lymphoma	5.2	-1.6*
Oral Cavity and Pharynx	4.5	-2.0*
Brain and ONS[f]	3.2	0.5
Larynx	3.0	-3.2*

Asian/Pacific Islander

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	117.3	-1.8*
Lung and Bronchus	29.3	-2.9*
Liver & IBD[f]	13.5	-1.5*
Colon and Rectum	11.5	-2.4*
Prostate	8.6	-1.7*
Pancreas	8.2	-0.4
Stomach	6.7	-3.4*
Non-Hodgkin Lymphoma	4.9	-0.7*
Leukemia	4.8	-0.5
Oral Cavity and Pharynx	3.1	1.2
Urinary Bladder	2.8	-0.9
Esophagus	2.8	-1.0
Kidney and Renal Pelvis	2.6	-2.2*
Brain and ONS[f]	2.6	1.3
Myeloma	2.0	-1.4
Soft Tissue including Heart	1.0	-0.3

American Indian/Alaska Native[d]

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	173.1	-1.5*
Lung and Bronchus	40.1	-3.8*
Colon and Rectum	19.4	-0.2
Prostate	18.7	-1.8
Liver & IBD[f]	14.8	1.5
Pancreas	10.3	1.8
Kidney and Renal Pelvis	8.2	-1.8
Stomach	6.3	-1.5
Esophagus	6.2	-0.4
Non-Hodgkin Lymphoma	5.5	0.7
Leukemia	5.1	-4.2
Urinary Bladder	4.2	1.3
Myeloma	3.6	0.5
Oral Cavity and Pharynx	3.5	0.5
Brain and ONS[f]	2.8	-2.2
Larynx	1.7	-

Hispanic[e]

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	136.2	-1.6*
Lung and Bronchus	24.2	-4.0*
Prostate	15.8	-2.2*
Colon and Rectum	14.2	-2.0*
Liver & IBD[f]	13.3	0.7*
Pancreas	9.4	-0.7
Stomach	6.4	-2.4*
Non-Hodgkin Lymphoma	5.9	-1.6*
Leukemia	5.8	-1.4*
Kidney and Renal Pelvis	5.0	0.2
Urinary Bladder	3.9	0.2
Esophagus	3.7	-2.6*
Brain and ONS[f]	3.5	0.9*
Myeloma	3.4	-0.4
Oral Cavity and Pharynx	2.4	0.4
Larynx	1.4	-3.0*

Source: US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.
[a] Top 15 cancer sites selected based on 2013-2017 age-adjusted rates for the race/ethnic group.
[b] Rates are per 100,000 and age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).
[c] The APC is the Annual Percent Change over the time interval.
Trends are based on rates age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).
[d] Rates for American Indian/Alaska Native are based on the Purchased/Referred Care Delivery Area (PRCDA) counties.
[e] Hispanic is not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives.
[f] IBD = Intrahepatic Bile Duct. ONS = Other Nervous System.
* The APC is significantly different from zero (p<.05).
- Statistic not shown. Rate based on less than 16 cases for the time interval. Trend based on less than 10 cases for at least one year within the time interval.

Table 1.28
Age-Adjusted U.S. Death Rates and Trends for the Top 15 Cancer Sites[a] by Race/Ethnicity

Females

All Races

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	135.7	-1.4*
Lung and Bronchus	33.2	-2.6*
Breast	20.3	-1.4*
Colon and Rectum	11.8	-2.1*
Pancreas	9.6	0.0
Ovary	6.9	-2.2*
Corpus and Uterus, NOS	4.8	2.1*
Leukemia	4.8	-1.6*
Non-Hodgkin Lymphoma	4.2	-2.5*
Liver & IBD[f]	4.0	2.4*
Brain and ONS[f]	3.6	0.6*
Myeloma	2.6	-0.5
Kidney and Renal Pelvis	2.3	-1.5*
Cervix Uteri	2.3	-0.4*
Stomach	2.2	-1.8*
Urinary Bladder	2.1	-0.5*

White

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	136.4	-1.3*
Lung and Bronchus	34.5	-2.5*
Breast	19.8	-1.4*
Colon and Rectum	11.5	-1.9*
Pancreas	9.4	0.1
Ovary	7.1	-2.2*
Leukemia	5.0	-1.5*
Corpus and Uterus, NOS	4.5	1.9*
Non-Hodgkin Lymphoma	4.4	-2.5*
Brain and ONS[f]	3.9	0.6*
Liver & IBD[f]	3.8	2.7*
Kidney and Renal Pelvis	2.4	-1.4*
Myeloma	2.4	-0.6
Urinary Bladder	2.2	-0.3
Cervix Uteri	2.2	0.2
Stomach	1.9	-1.6*

Black

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	153.4	-1.6*
Lung and Bronchus	31.1	-2.9*
Breast	27.6	-1.6*
Colon and Rectum	15.2	-2.9*
Pancreas	12.0	-0.4
Corpus and Uterus, NOS	8.6	2.3*
Ovary	6.0	-1.9*
Myeloma	5.3	-0.3
Liver & IBD[f]	4.8	2.1*
Leukemia	4.3	-1.4*
Stomach	3.6	-3.9*
Cervix Uteri	3.4	-2.9*
Non-Hodgkin Lymphoma	3.2	-1.6*
Urinary Bladder	2.4	-0.9
Kidney and Renal Pelvis	2.2	-2.2*
Brain and ONS[f]	2.2	0.8

Asian/Pacific Islander

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	85.6	-1.1*
Lung and Bronchus	16.9	-1.6*
Breast	11.4	0.2
Colon and Rectum	8.1	-2.4*
Pancreas	7.1	-0.3
Liver & IBD[f]	5.6	-1.7*
Ovary	4.4	-0.9
Stomach	4.1	-2.2*
Corpus and Uterus, NOS	3.2	3.0*
Non-Hodgkin Lymphoma	3.0	-2.5*
Leukemia	2.6	-3.3*
Brain and ONS[f]	1.9	3.0*
Cervix Uteri	1.8	-0.3
Myeloma	1.2	-0.3
Oral Cavity and Pharynx	1.1	-0.7
Kidney and Renal Pelvis	1.1	-1.4

American Indian/Alaska Native[d]

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	123.0	-1.4*
Lung and Bronchus	28.4	-2.5*
Breast	14.6	0.4
Colon and Rectum	13.0	-3.4*
Pancreas	7.8	0.4
Liver & IBD[f]	7.1	2.7
Ovary	6.3	-0.4
Stomach	3.6	-0.3
Kidney and Renal Pelvis	3.4	-5.8*
Corpus and Uterus, NOS	3.4	2.1
Non-Hodgkin Lymphoma	3.2	-3.4
Leukemia	3.0	-2.0
Myeloma	3.0	2.5
Cervix Uteri	2.5	-5.4*
Brain and ONS[f]	2.4	0.7
Urinary Bladder	1.7	-

Hispanic[e]

	Rate[b] 2013-2017	APC[c] 2008-2017
All Sites	95.5	-0.8*
Breast	14.0	-0.8*
Lung and Bronchus	12.7	-1.8*
Colon and Rectum	8.7	-1.8*
Pancreas	7.8	0.2
Liver & IBD[f]	6.0	1.2*
Ovary	5.2	-1.4*
Corpus and Uterus, NOS	4.0	2.6*
Stomach	4.0	-1.0*
Leukemia	3.8	-1.2*
Non-Hodgkin Lymphoma	3.7	-2.4*
Cervix Uteri	2.6	-0.8
Brain and ONS[f]	2.6	1.5*
Kidney and Renal Pelvis	2.2	-1.0
Myeloma	2.2	-0.6
Urinary Bladder	1.3	0.3

Source: US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.
[a] Top 15 cancer sites selected based on 2013-2017 age-adjusted rates for the race/ethnic group.
[b] Rates are per 100,000 and age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).
[c] The APC is the Annual Percent Change over the time interval.
Trends are based on rates age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).
[d] Rates for American Indian/Alaska Native are based on the Purchased/Referred Care Delivery Area (PRCDA) counties.
[e] Hispanic is not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives.
[f] IBD = Intrahepatic Bile Duct. ONS = Other Nervous System.
* The APC is significantly different from zero (p<.05).
- Statistic not shown. Rate based on less than 16 cases for the time interval. Trend based on less than 10 cases for at least one year within the time interval.

Surveillance, Epidemiology, and End Results (SEER) Program: SEER 9, 13, 18, & 21 Geographic Areas National Cancer Institute, USA

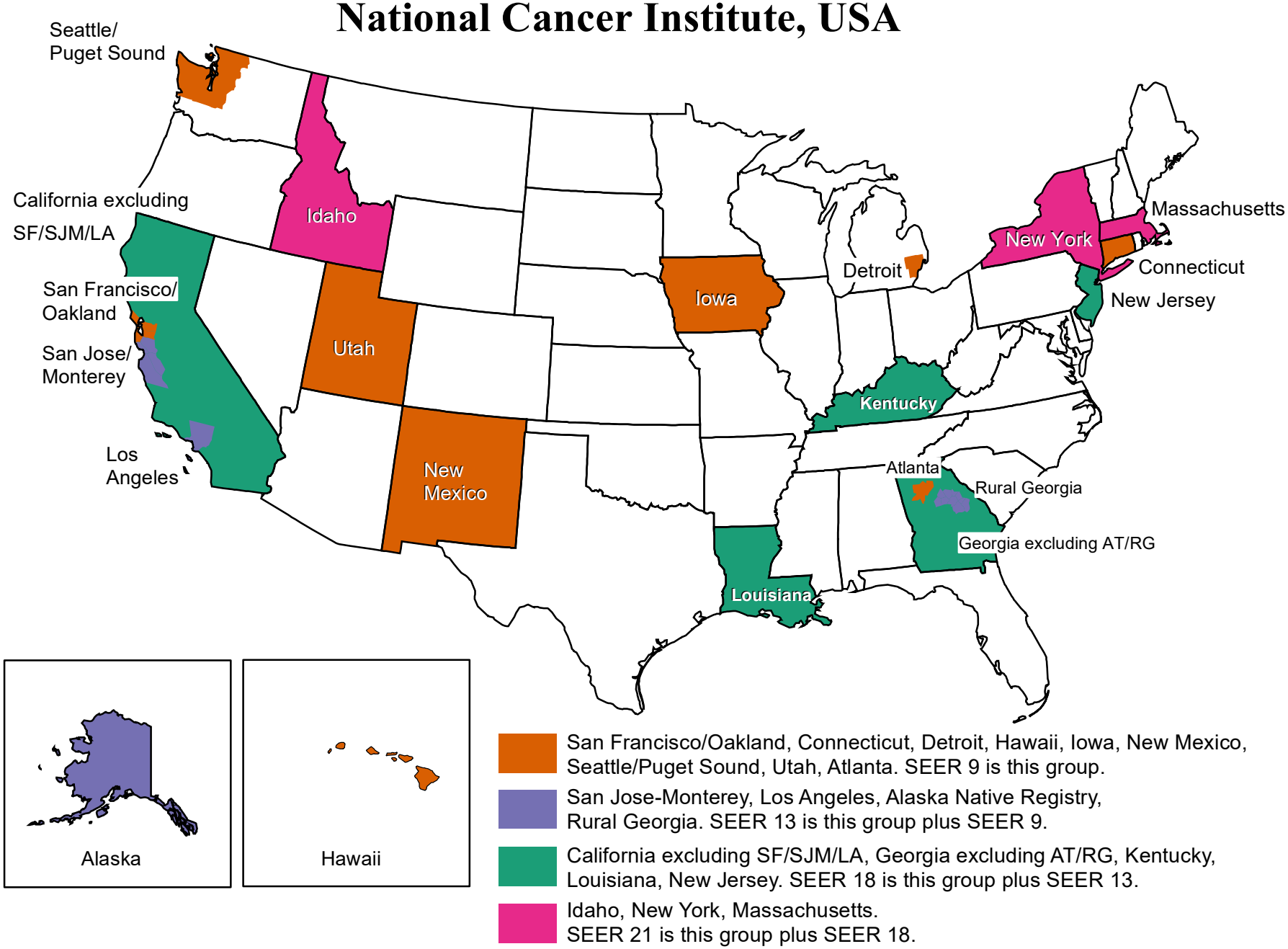
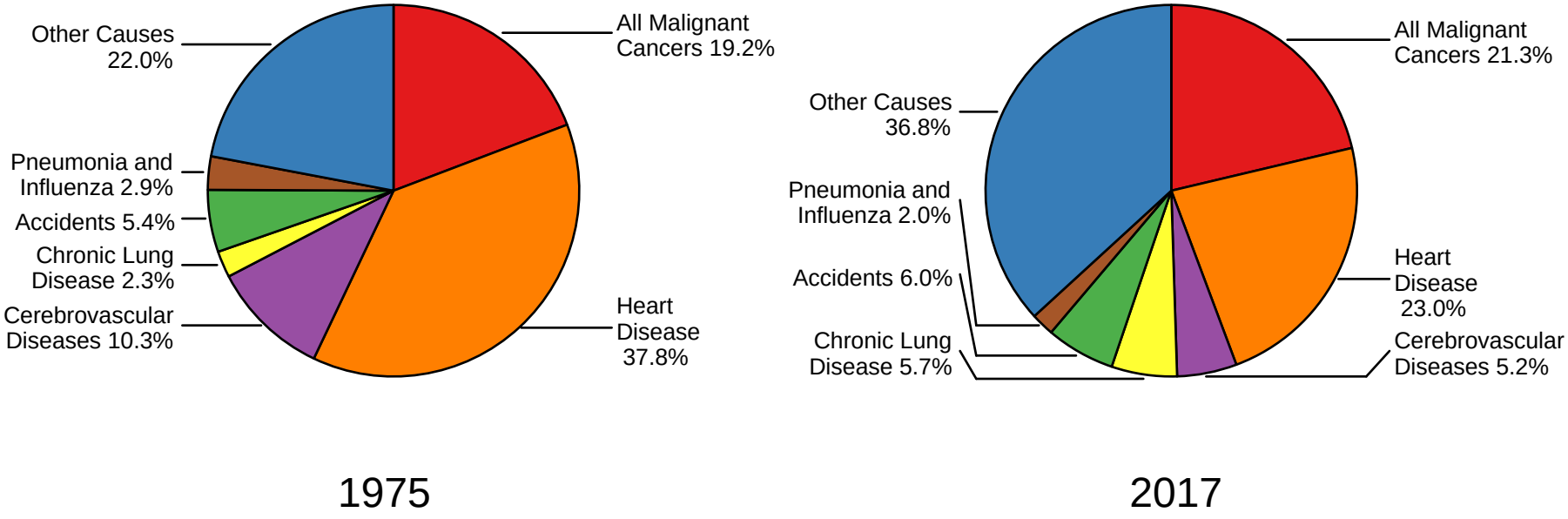


Figure 1.1

http://seer.cancer.gov

Figure 1.2

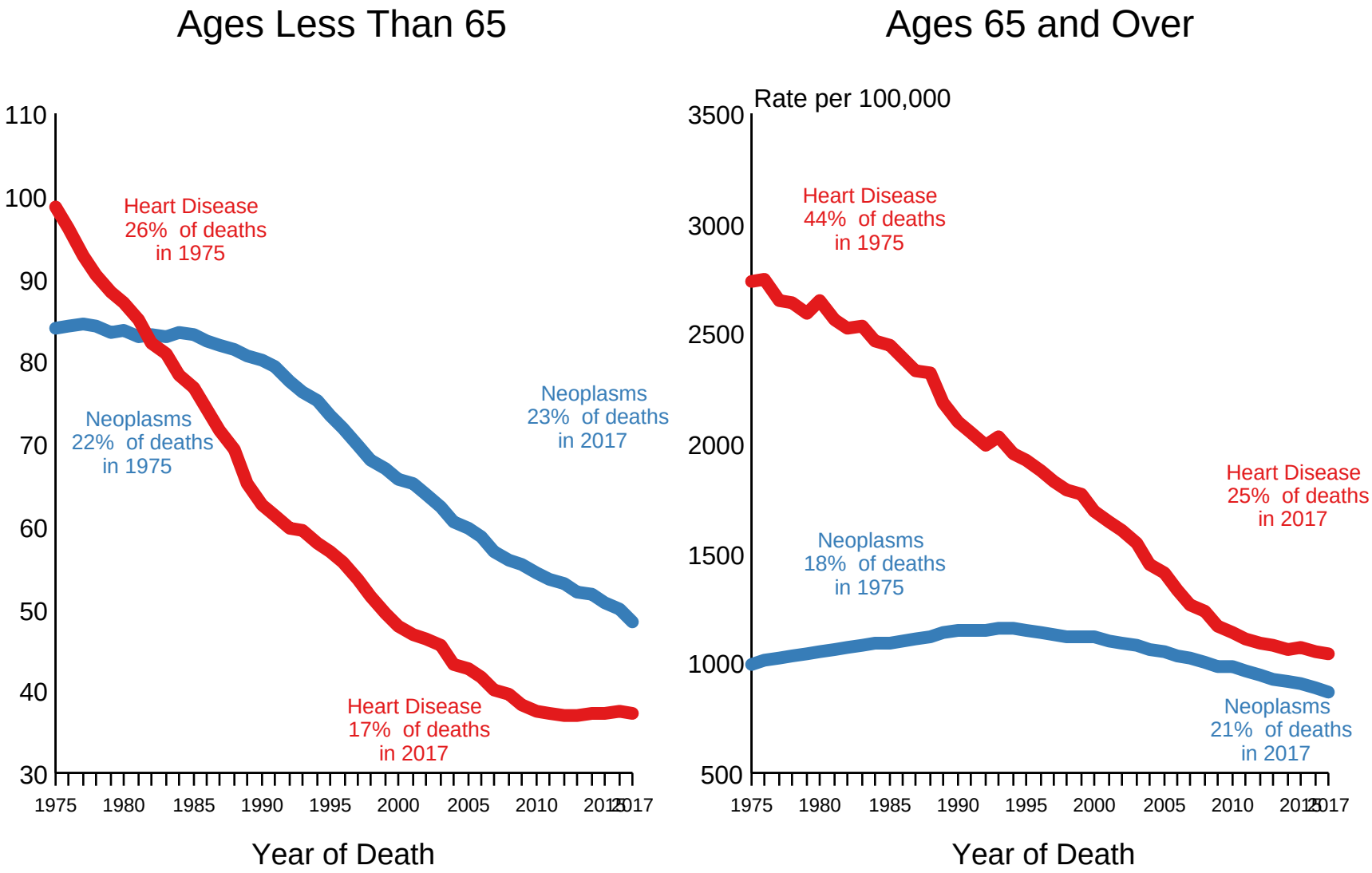
Leading Causes of Death in US, 1975 vs 2017
Percent of All Causes of Death



Source: US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.

Figure 1.3

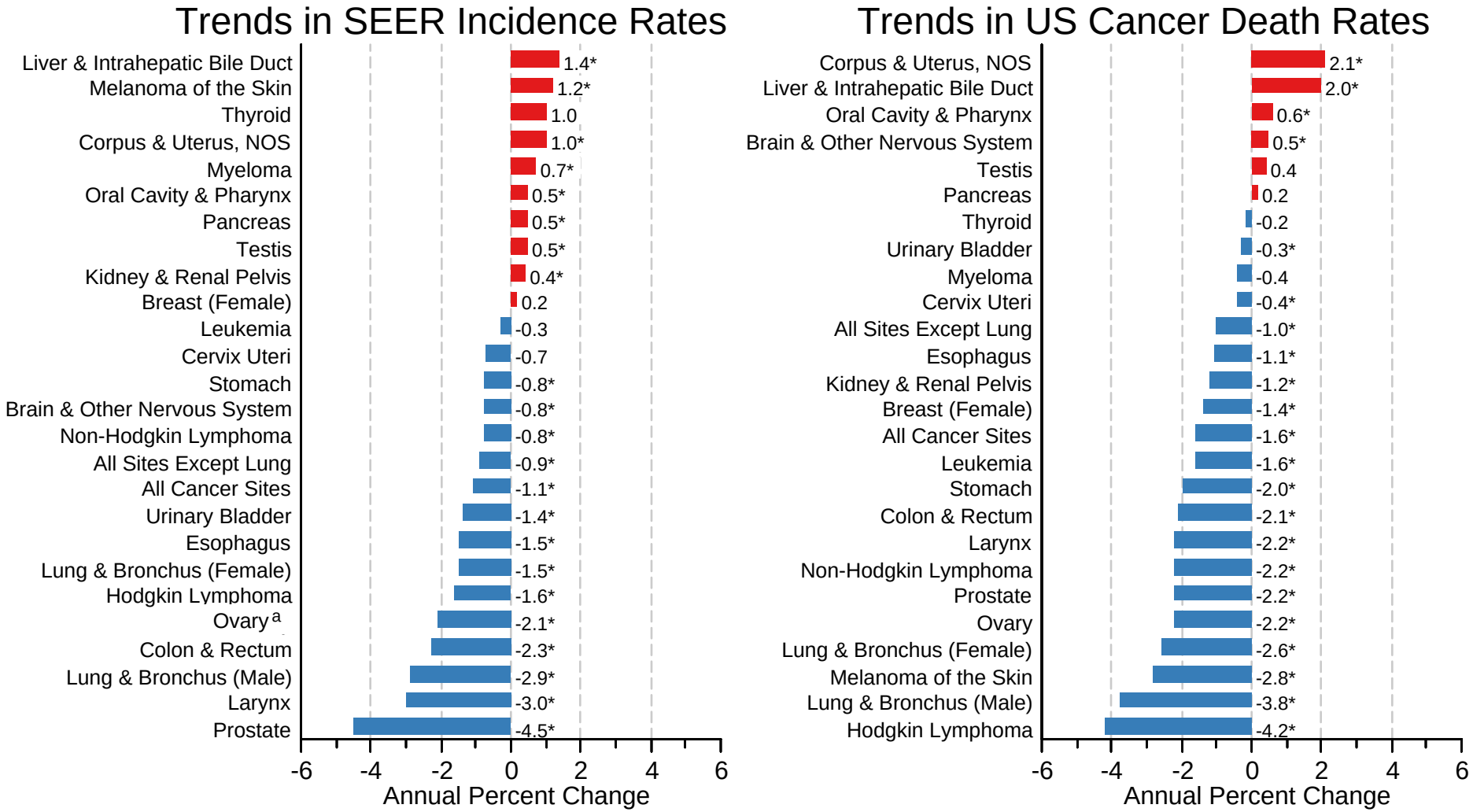
Us Death Rates, 1975-2017
Heart Disease compared to Neoplasms, by age at death



Source: US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.
Rates are per 100,000 and age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103).

Figure 1.4

Trends in SEER Incidence and US Death Rates by Primary Cancer Site 2008-2017



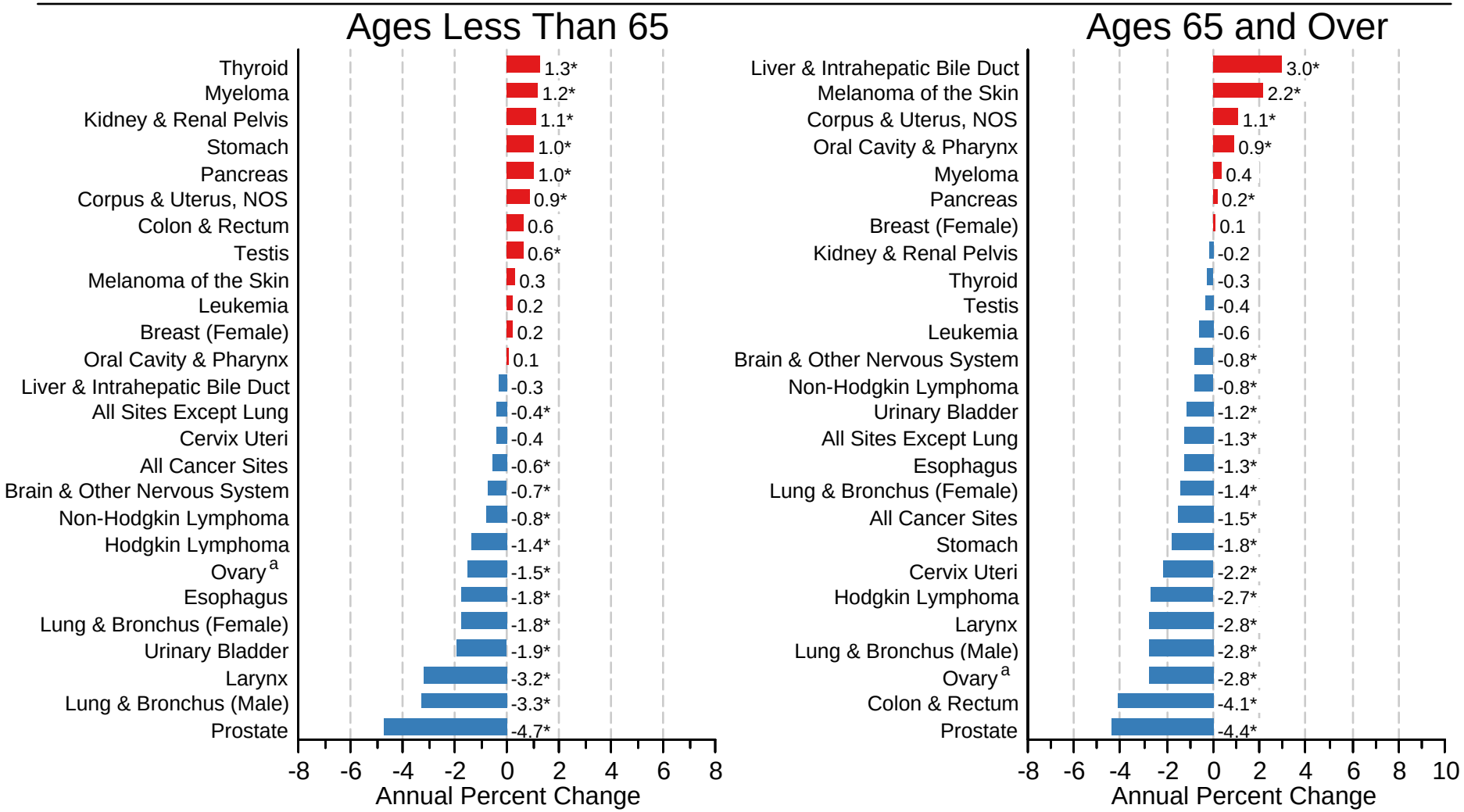
Source: SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts) and US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.
Underlying rates are per 100,000 and age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103).
For sex-specific cancer sites, the population was limited to the population of the appropriate sex.

* The APC is significantly different from zero (p<.05).

[a] Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

Figure 1.5

Trends in SEER Incidence Rates by Age Group and Primary Cancer Site 2008-2017



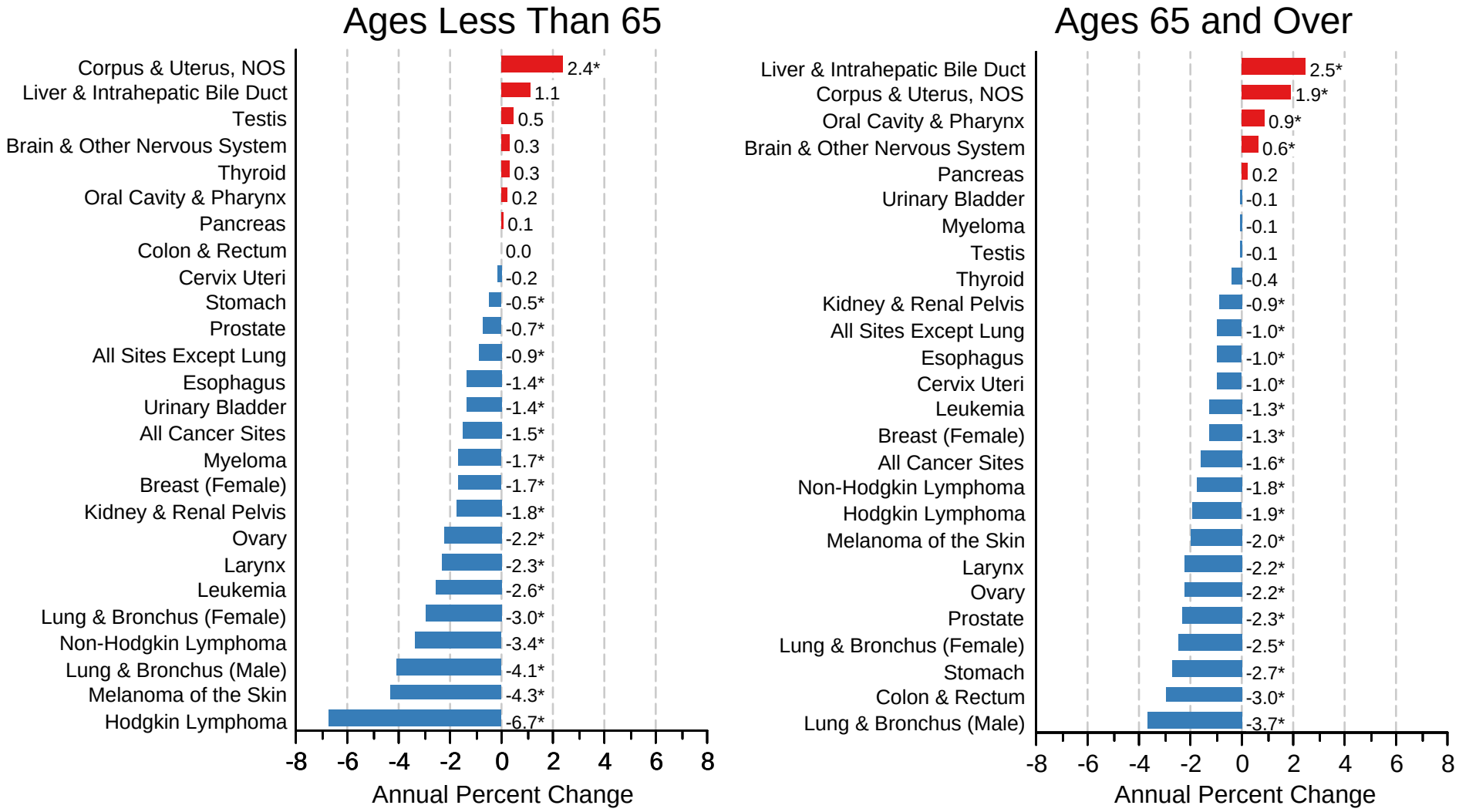
Source: SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).
Underlying rates are per 100,000 and age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103).
For sex-specific cancer sites, the population was limited to the population of the appropriate sex.

* The APC is significantly different from zero (p<.05).

[a] Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

Figure 1.6

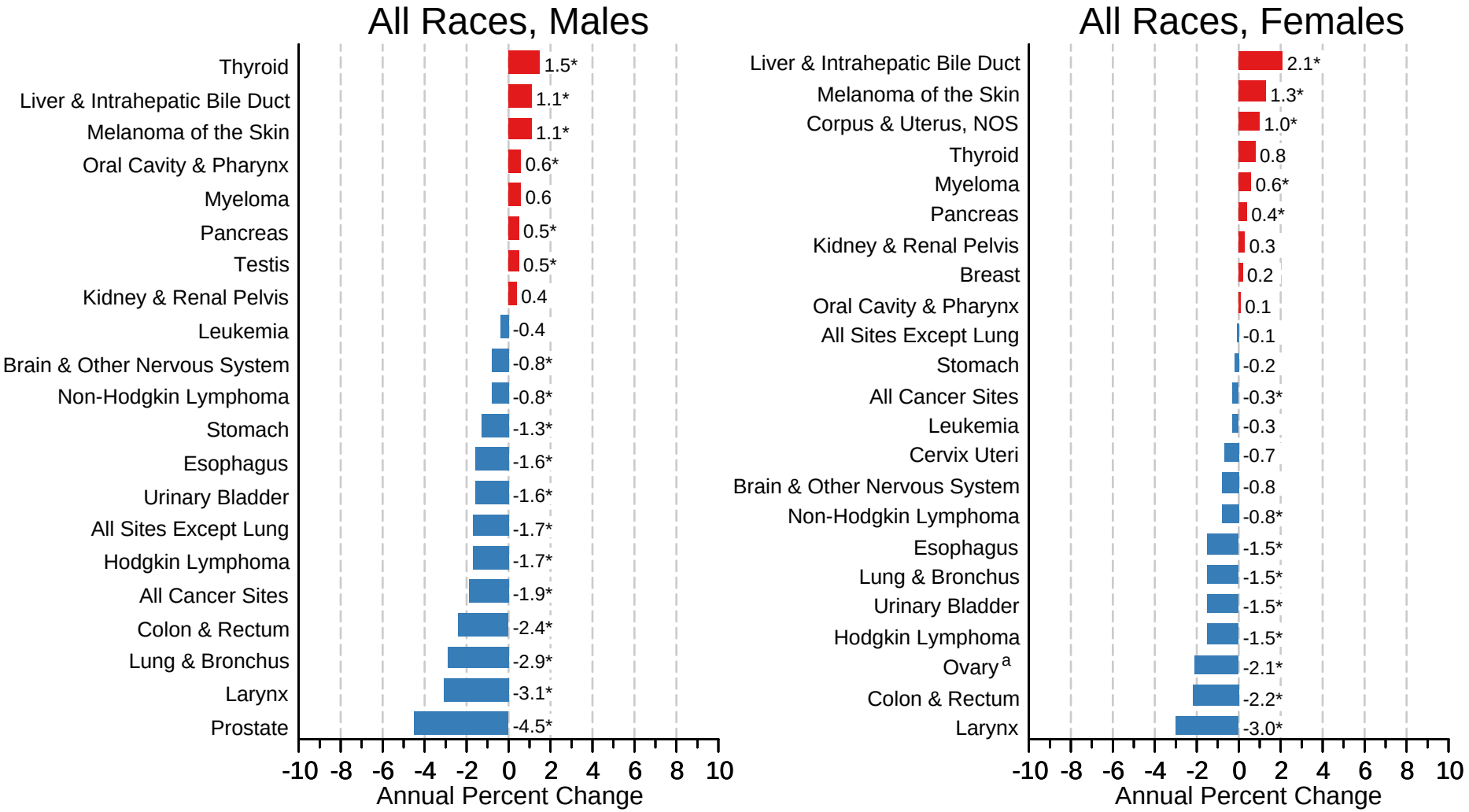
Trends in US Death Rates by Age Group and Primary Cancer Site 2008-2017



Source: US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.
Underlying rates are per 100,000 and age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103).
For sex-specific cancer sites, the population was limited to the population of the appropriate sex.
* The APC is significantly different from zero (p<.05).

Figure 1.7

Trends in SEER Incidence Rates by Sex and Primary Cancer Site 2008-2017



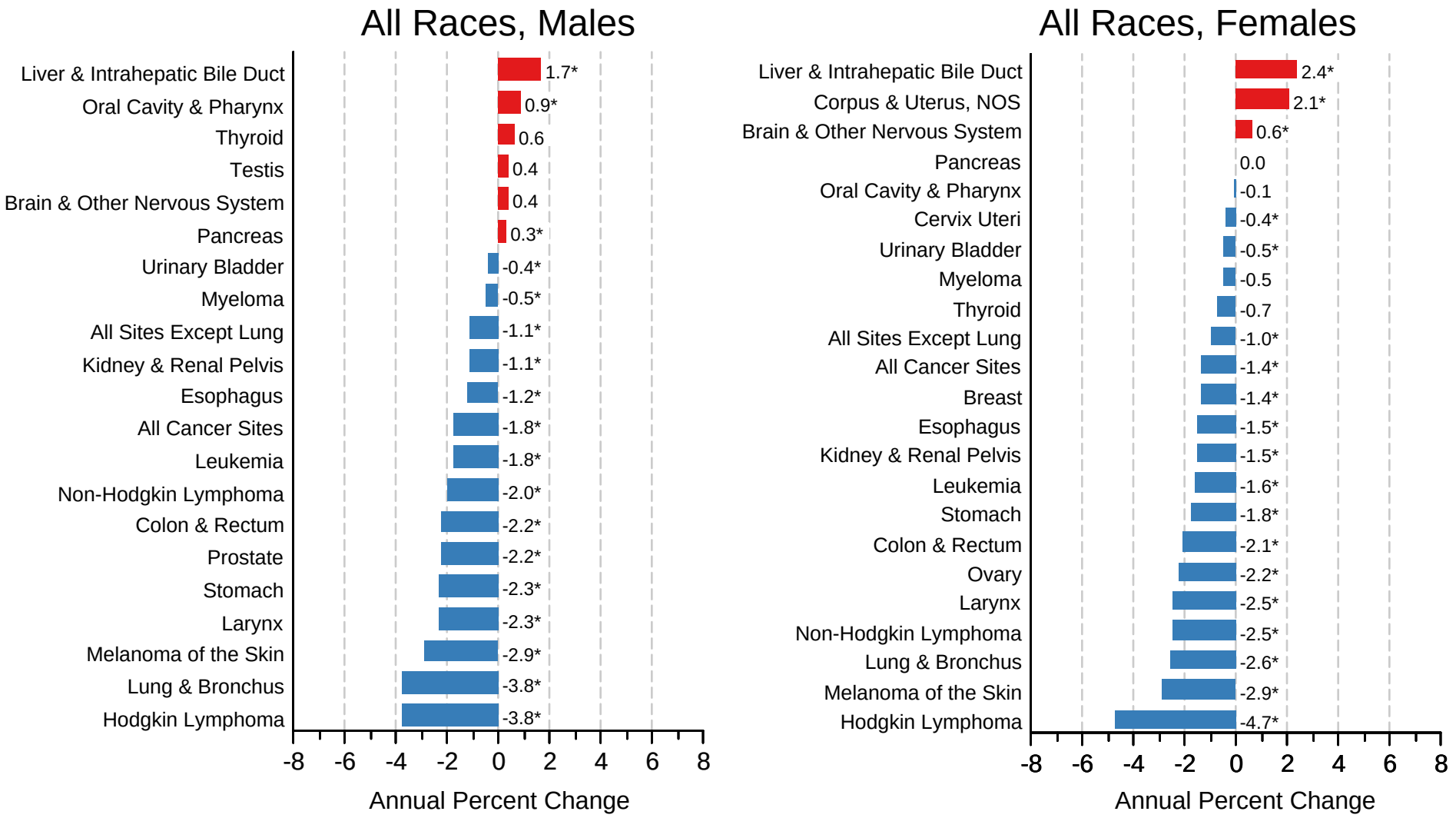
Source: SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).
Underlying rates are per 100,000 and age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103).
For sex-specific cancer sites, the population was limited to the population of the appropriate sex.

* The APC is significantly different from zero (p<.05).

[a] Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

Figure 1.8

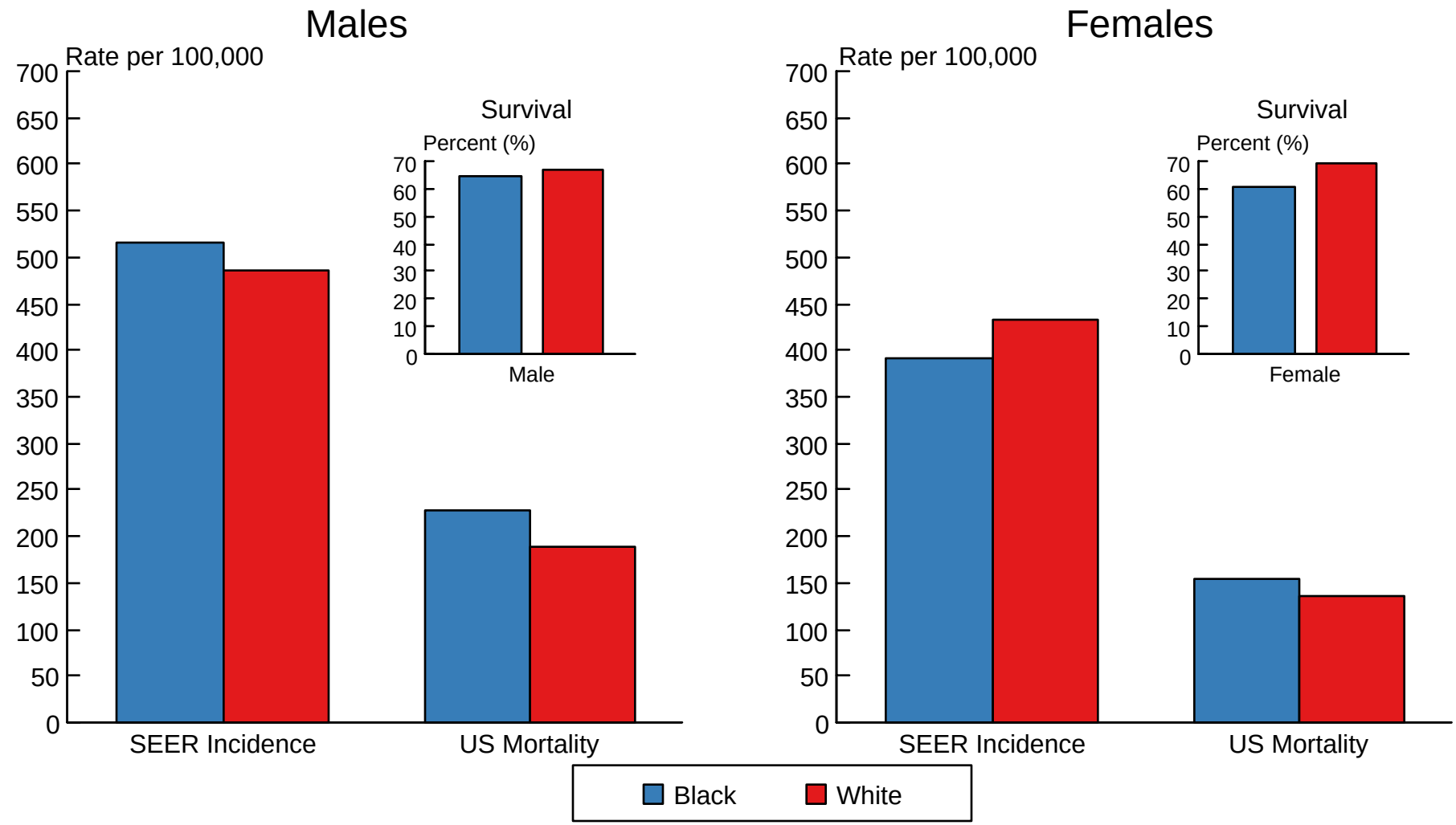
Trends in US Death Rates by Sex and Primary Cancer Site 2008-2017



Source: US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.
Underlying rates are per 100,000 and age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103).
For sex-specific cancer sites, the population was limited to the population of the appropriate sex.
* The APC is significantly different from zero (p<.05).

Figure 1.9

SEER Incidence[a] and US Death Rates,[b] 2013-2017
5-Year Relative Survival,[c] 2010-2016
All Cancer Combined, by Race and Sex

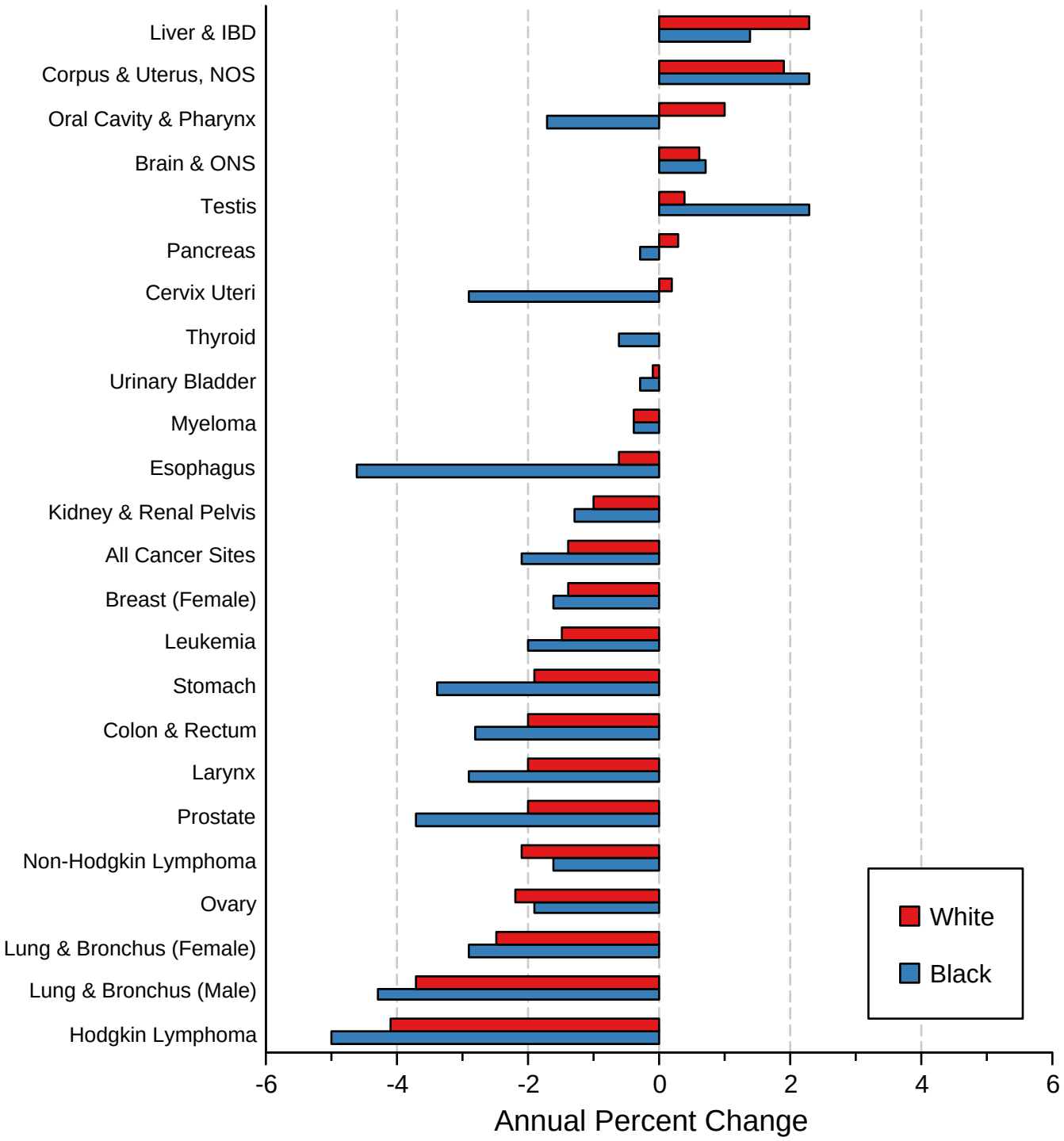


[a] Incidence rates are from the SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry,Rural Georgia,California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts) and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103).

[b] Death rates are from the US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention and are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103).

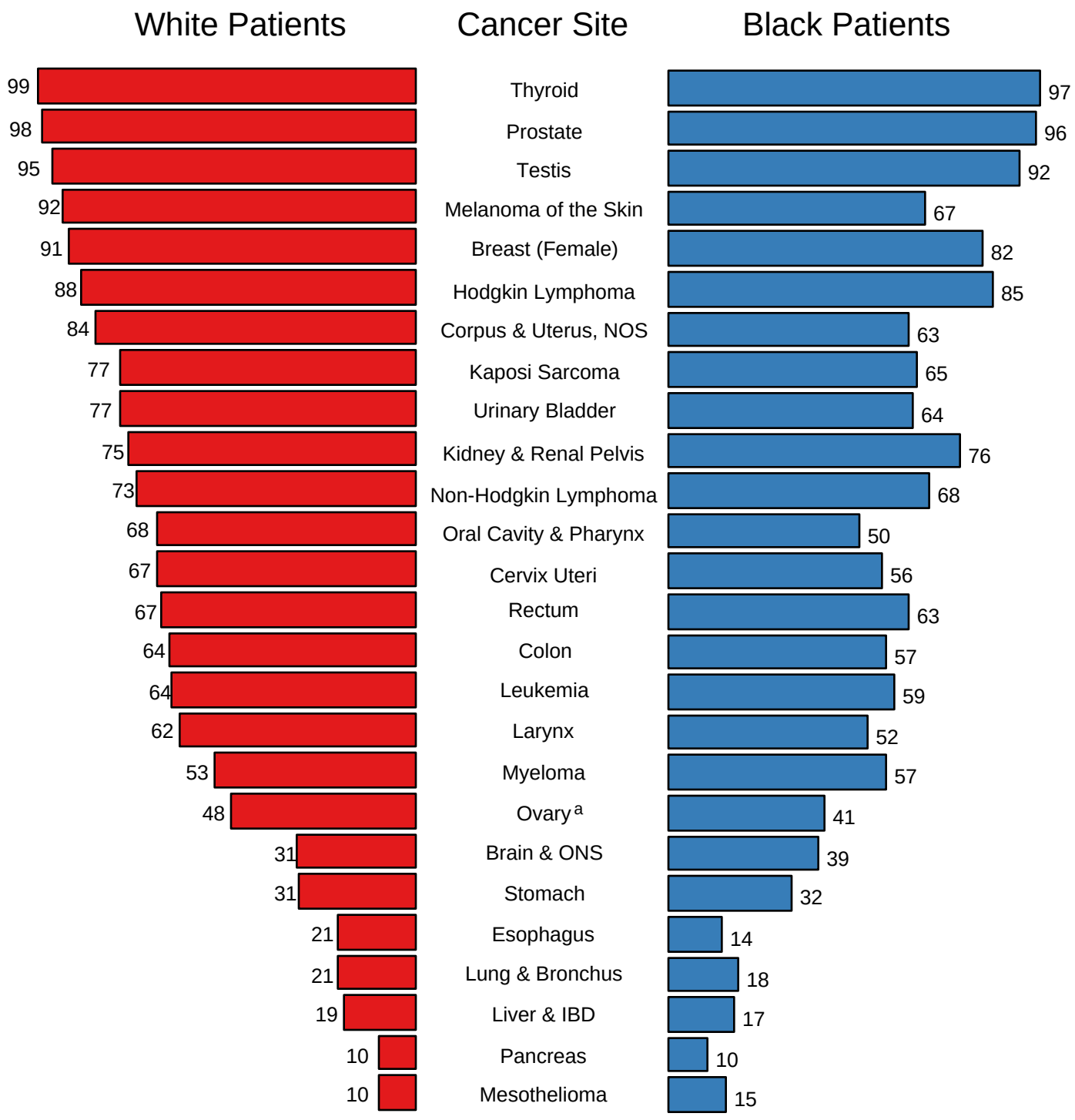
[c] Survival rates are from the SEER 18 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey and Georgia excluding ATL/RG).

Trends in US Death Rates, 2008-2017
All Ages, by Race and Primary Cancer Site



Source: US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.
The APC is the Annual Percent Change over the time interval.
Trends are based on rates age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1130).

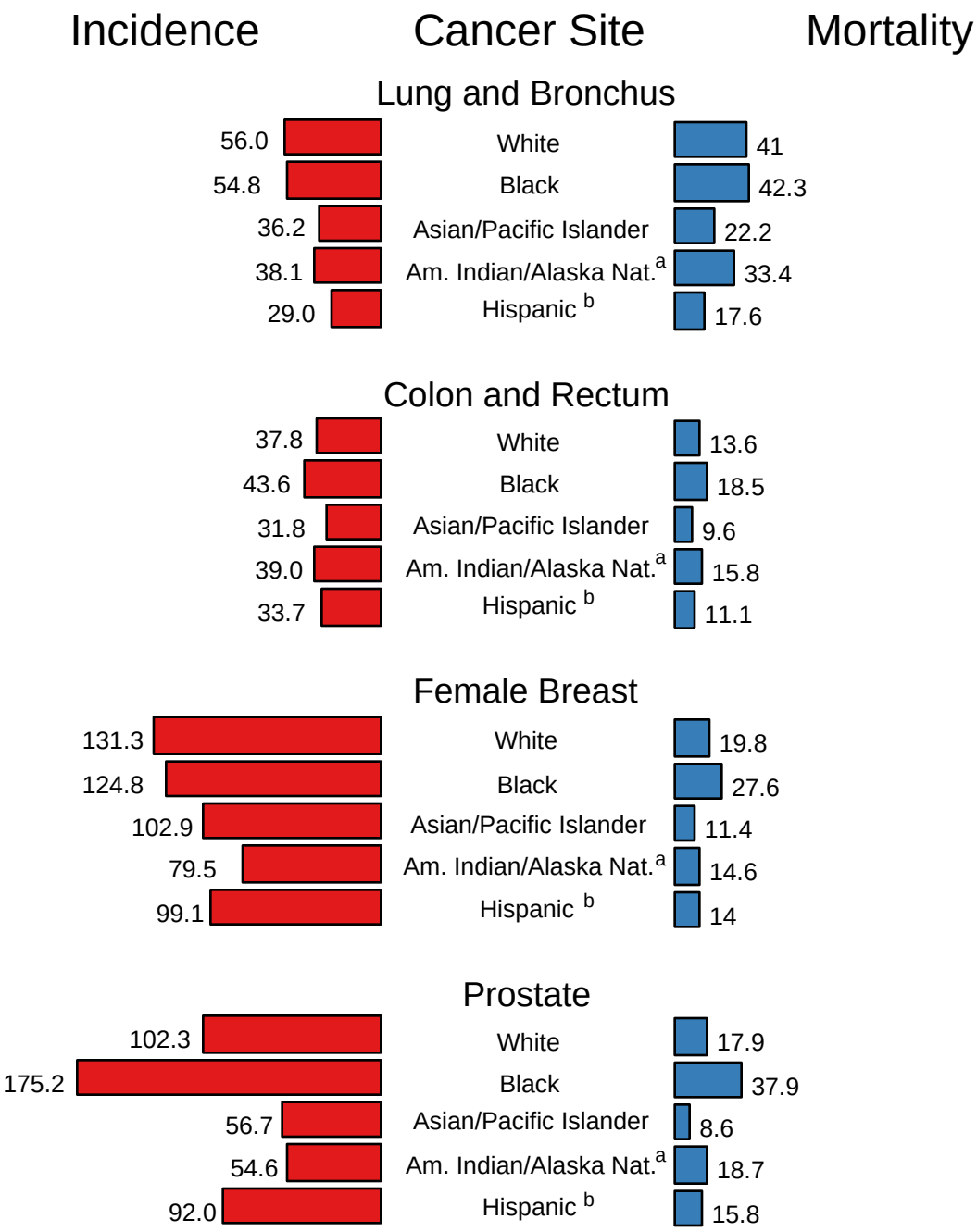
5-Year Relative Survival (%)
SEER Program, 2010-2016
Both Sexes, by Race and Cancer Site



Source: SEER 18 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey and Georgia excluding ATL/RG).

[a] Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

SEER Cancer Incidence and US Death Rates, 2013-2017
By Cancer Site and Race/Ethnicity



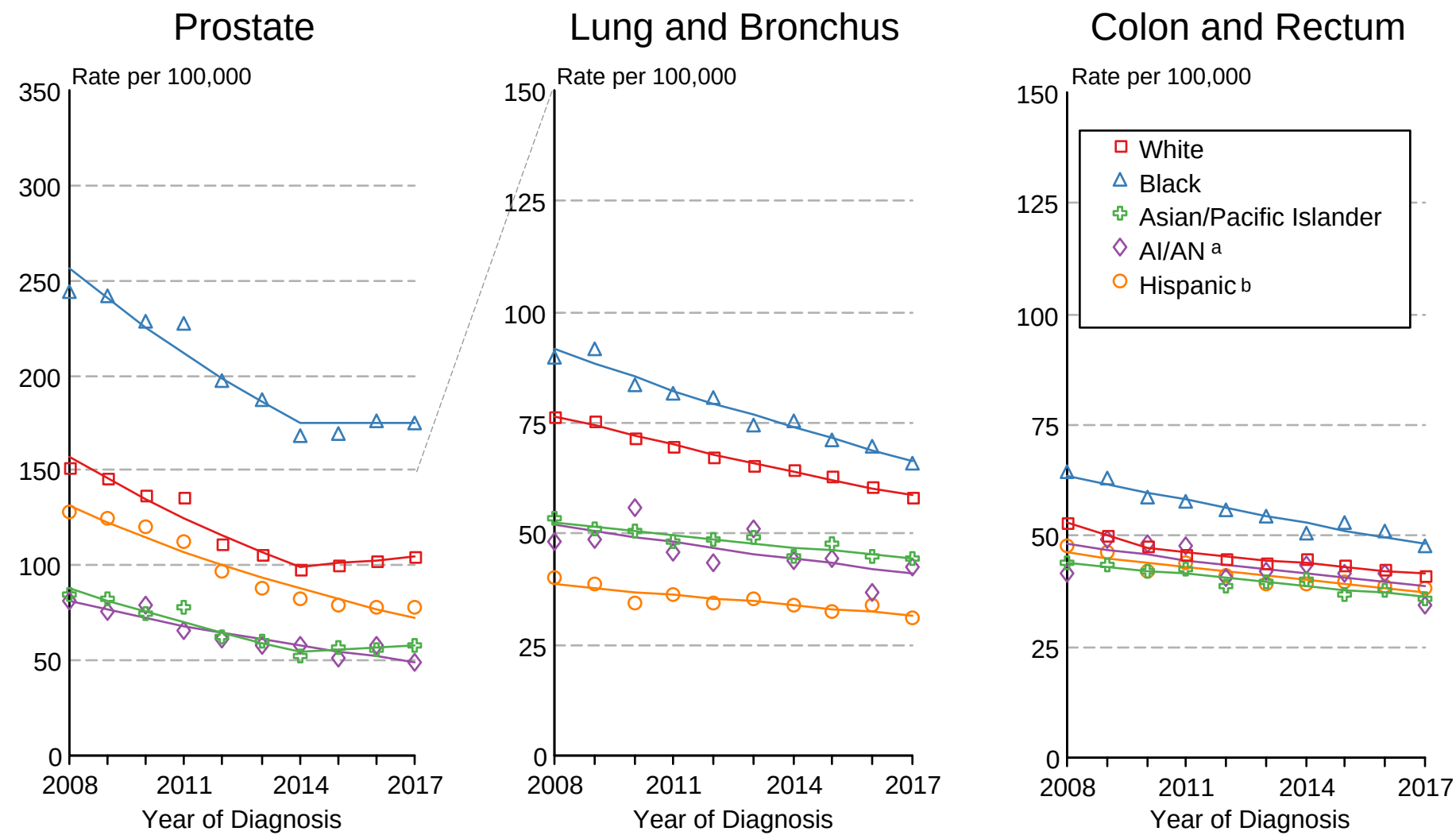
Source: SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts) and US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.

a Rates for American Indian/Alaska Native are based on the CHSDA (Contract Health Service Delivery Area) counties.

b Hispanic is not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives.
Incidence data for Hispanics are based on NHIA and exclude cases from the Alaska Native Registry.

Figure 1.13

SEER Incidence 2008-2017
Males by Race/Ethnicity



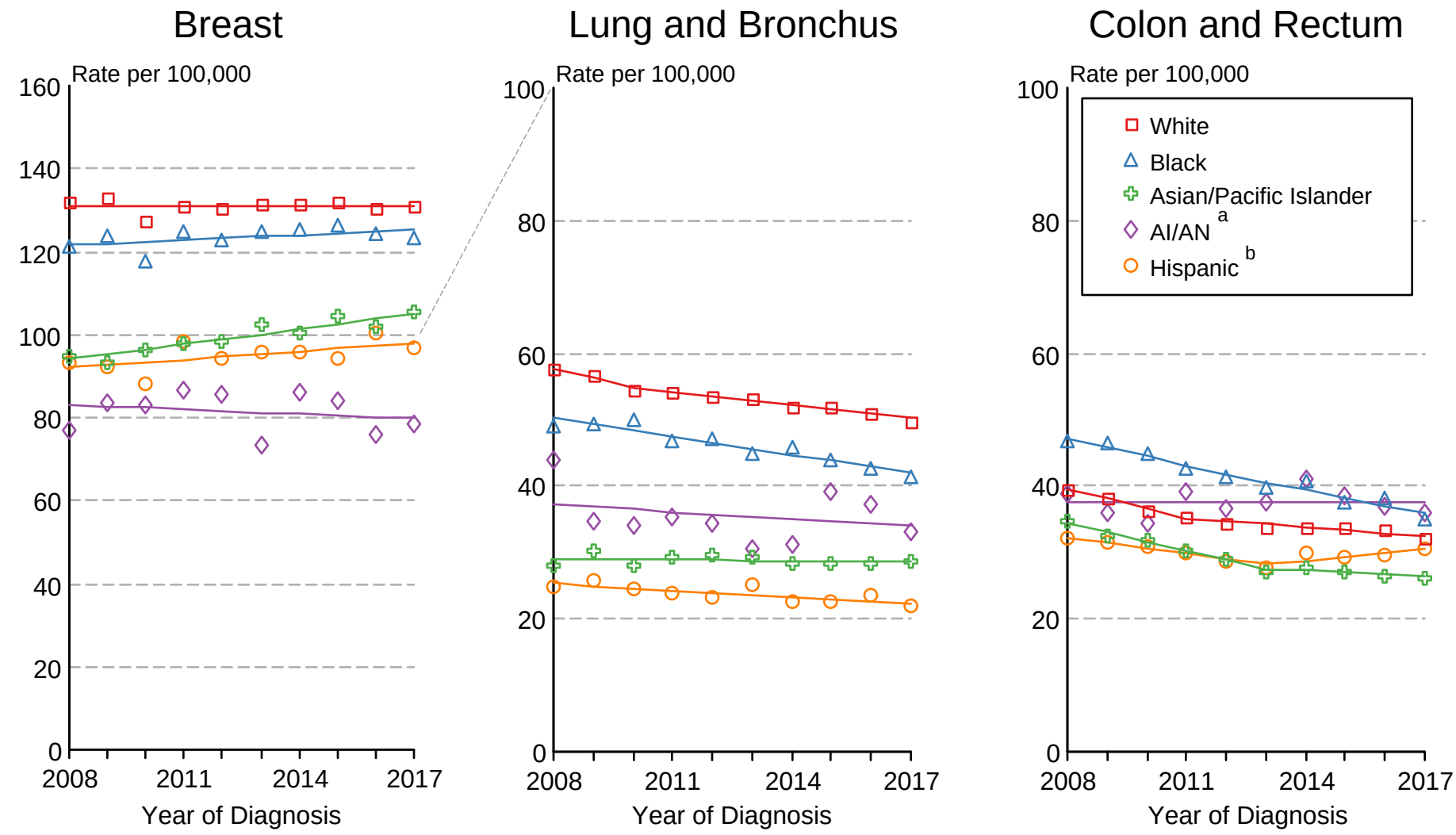
Source: SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG), Idaho, New York and Massachusetts.
Rates are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103).
Regression lines are calculated using the Joinpoint Regression Program Version 4.8, April 2020, National Cancer Institute.

a Incidence rates for American Indian/Alaska Native (AI/AN) are based on the CHSDA(Contract Health Service Delivery Area) counties.

b Hispanic is not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives. Incidence data for Hispanics are based on NHIA and exclude cases from the Alaska Native Registry.

Figure 1.14

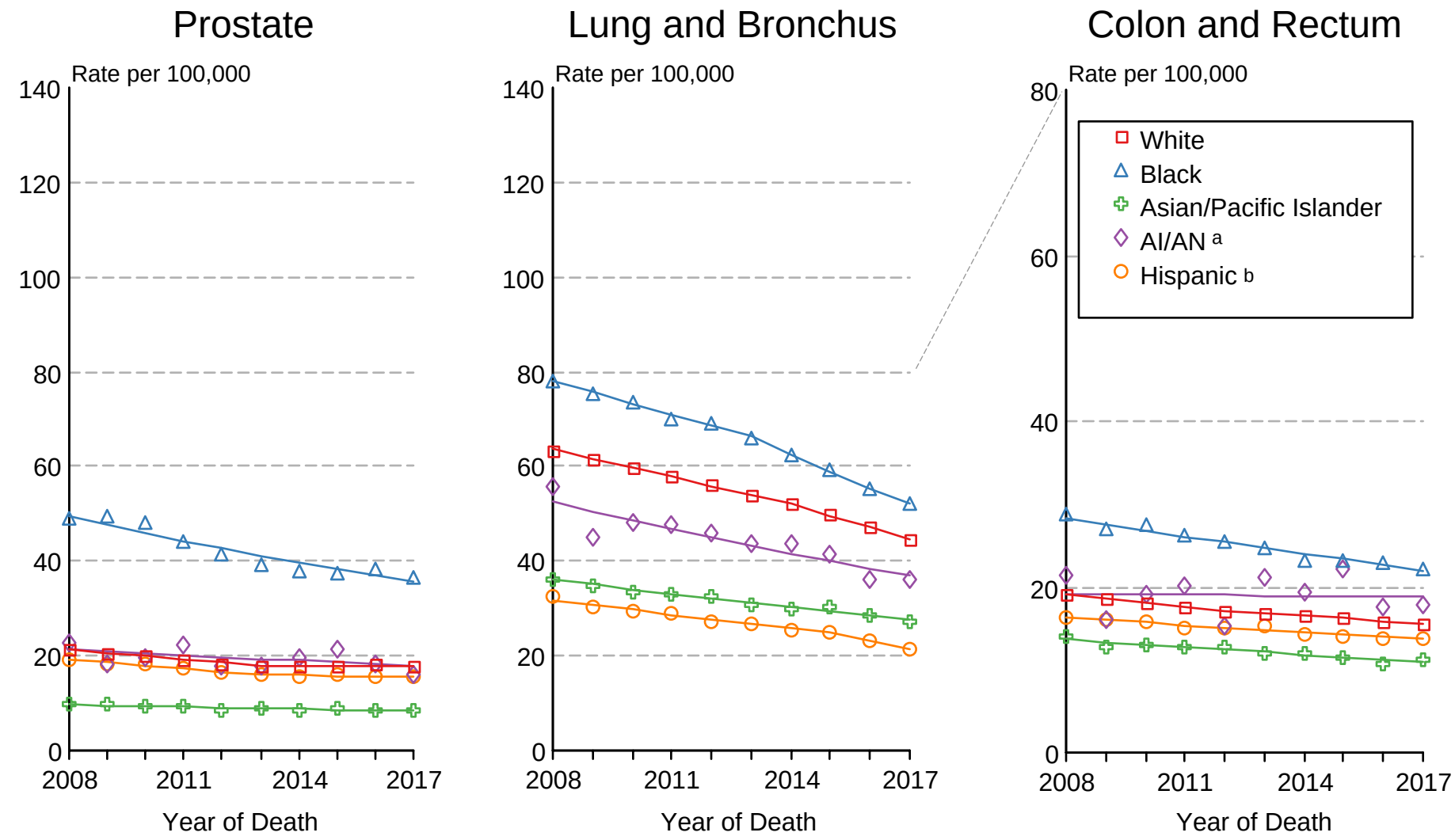
SEER Incidence 2008-2017
Females by Race/Ethnicity



Source: SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG), Idaho, New York and Massachusetts.
Rates are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103).
Regression lines are calculated using the Joinpoint Regression Program Version 4.8, April 2020, National Cancer Institute.
[a] Incidence rates for American Indian/Alaska Native (AI/AN) are based on the CHSDA(Contract Health Service Delivery Area) counties.
[b] Hispanic is not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives. Incidence data for Hispanics are based on NHIA and exclude cases from the Alaska Native Registry.

Figure 1.15

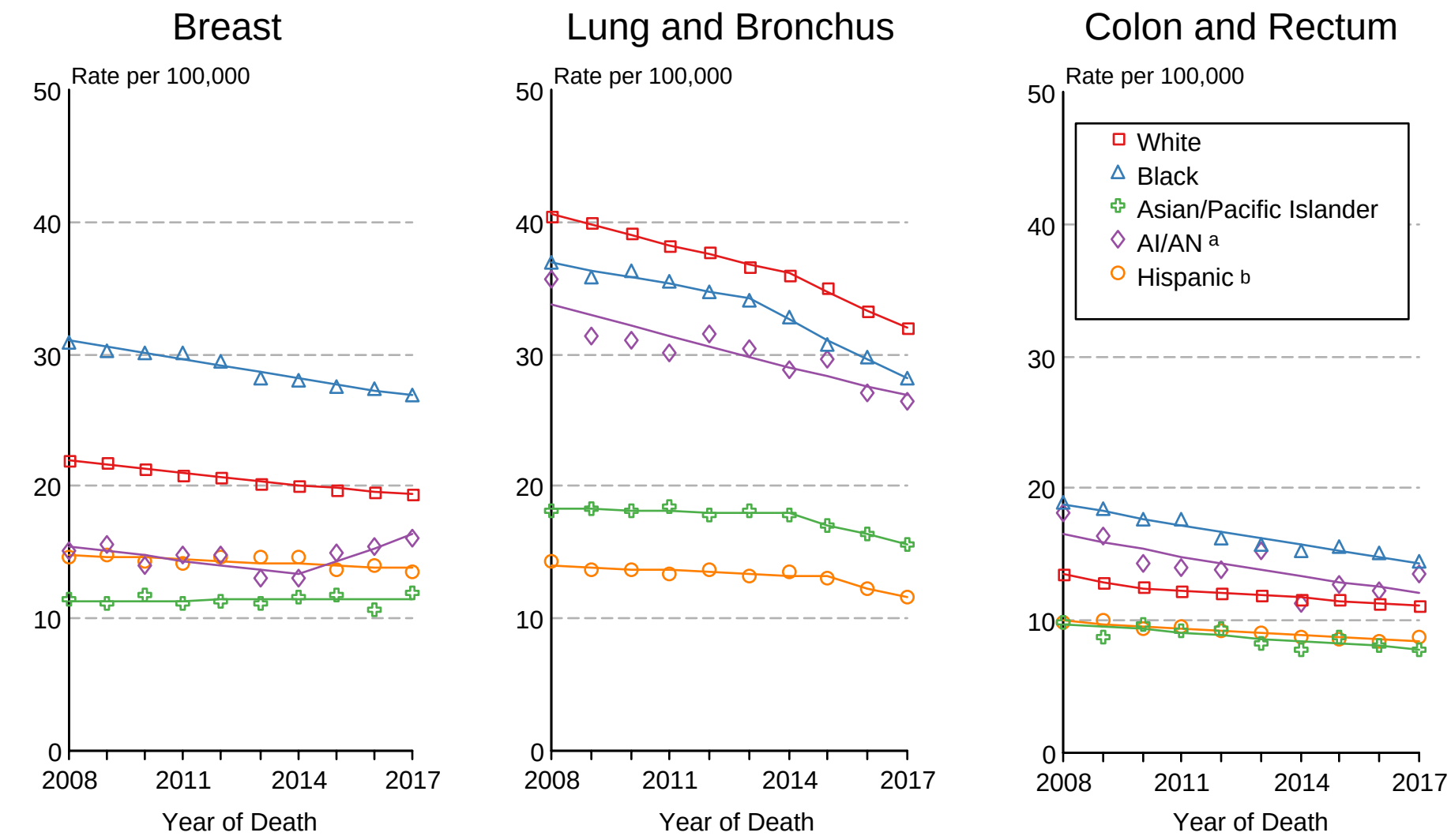
US Mortality 2008-2017
Males by Race/Ethnicity



Source: US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.
Rates are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103).
Regression lines are calculated using the Joinpoint Regression Program Version 4.8, April 2020, National Cancer Institute.
[a] Mortality rates for American Indian/Alaska Native (AI/AN) are based on the CHSDA(Contract Health Service Delivery Area) counties.
[b] Hispanic is not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives.

Figure 1.16

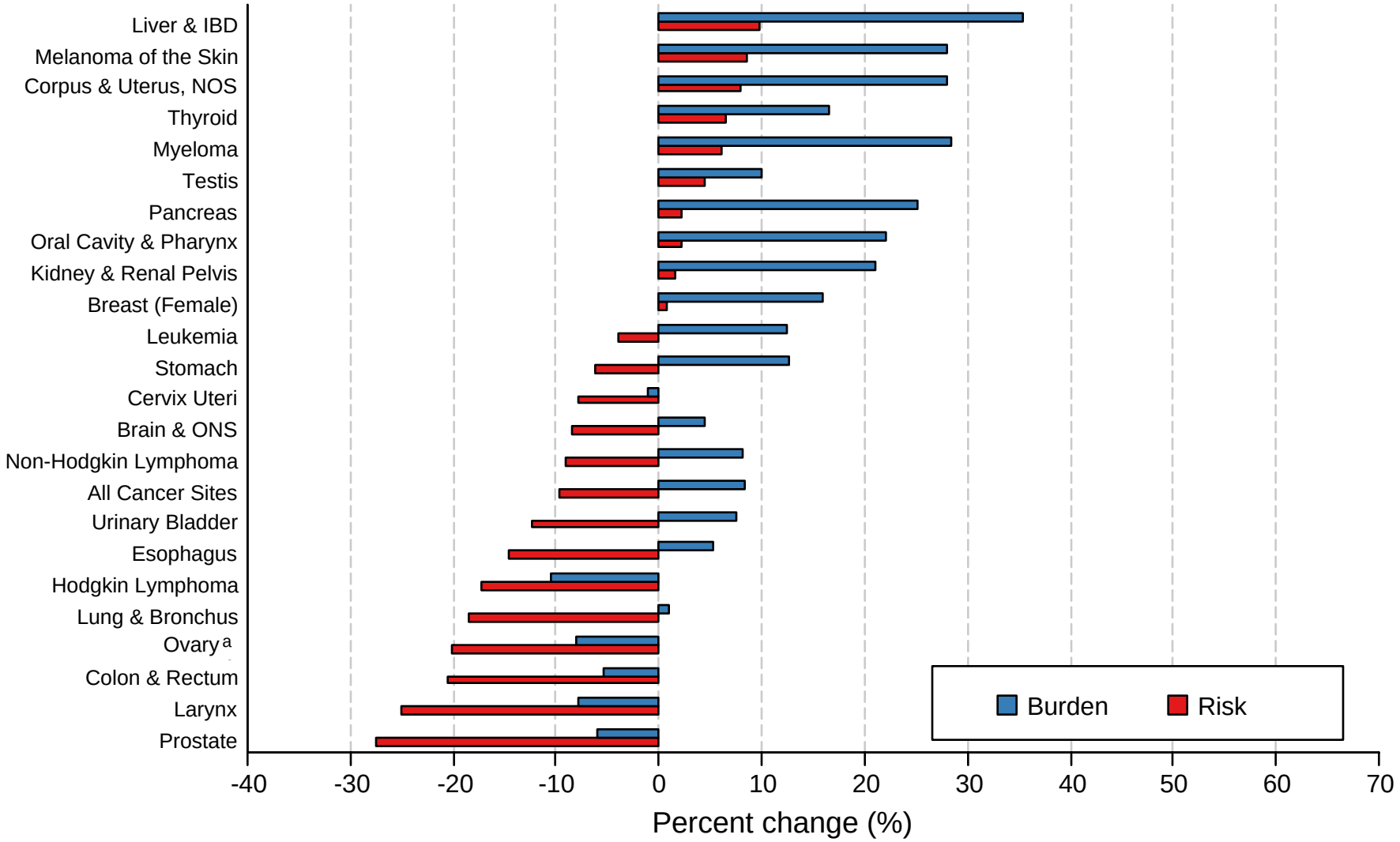
US Mortality 2008-2017
Females by Race/Ethnicity



Source: US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.
Rates are age-adjusted to the 2000 US Std Population (19 age groups - Census P25-1103).
Regression lines are calculated using the Joinpoint Regression Program Version 4.8, April 2020, National Cancer Institute.
[a] Mortality rates for American Indian/Alaska Native (AI/AN) are based on the CHSDA(Contract Health Service Delivery Area) counties.
[b] Hispanic is not mutually exclusive from whites, blacks, Asian/Pacific Islanders, and American Indians/Alaska Natives.

Figure 1.17

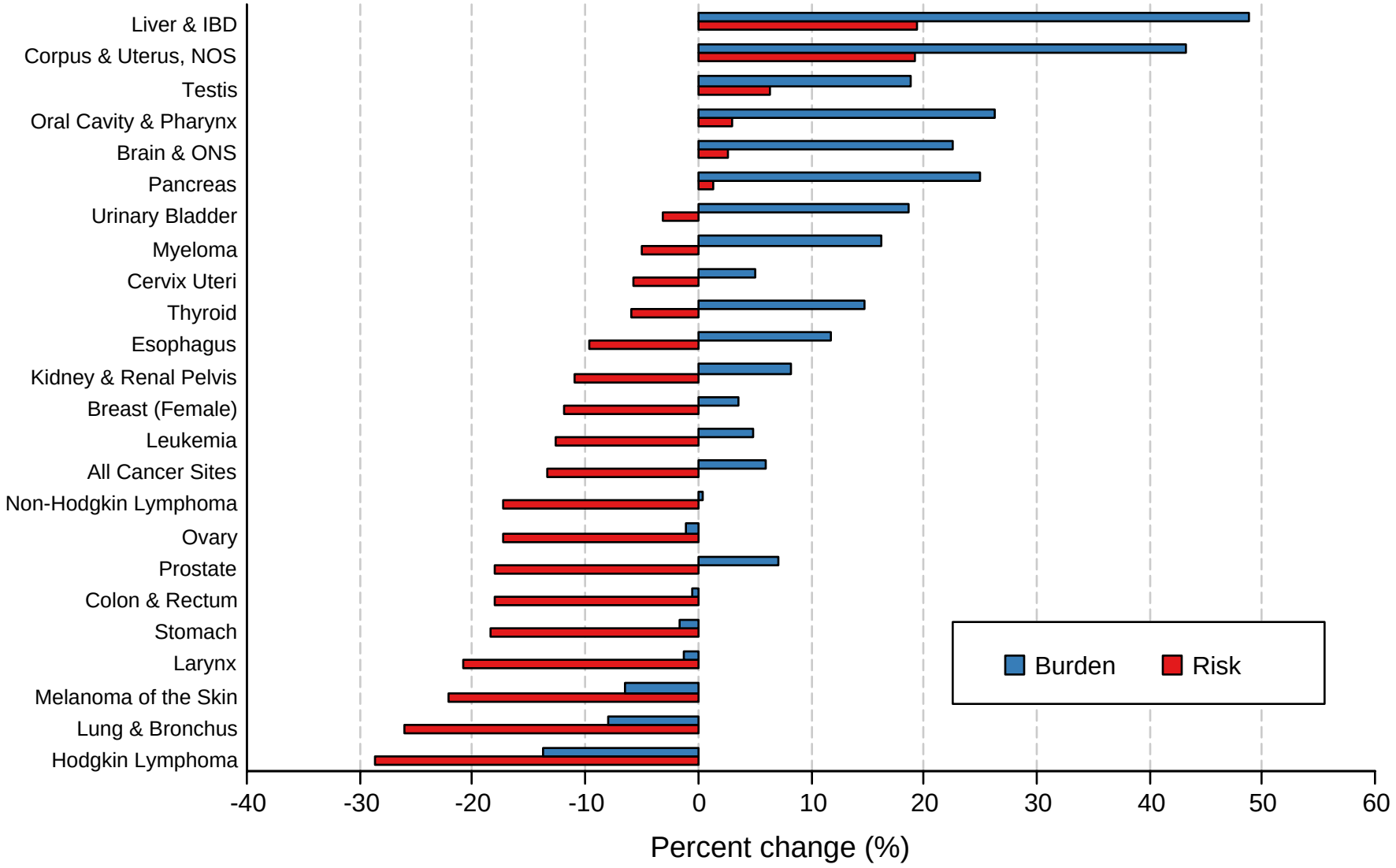
Incidence Percent Change between 2008 and 2017
Numbers (burden) vs Rates (risk)
All Races, All Ages, Both Sexes



Source: SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).
Risk is the change in the cancer incidence rates between 2008 and 2017.
[a] Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

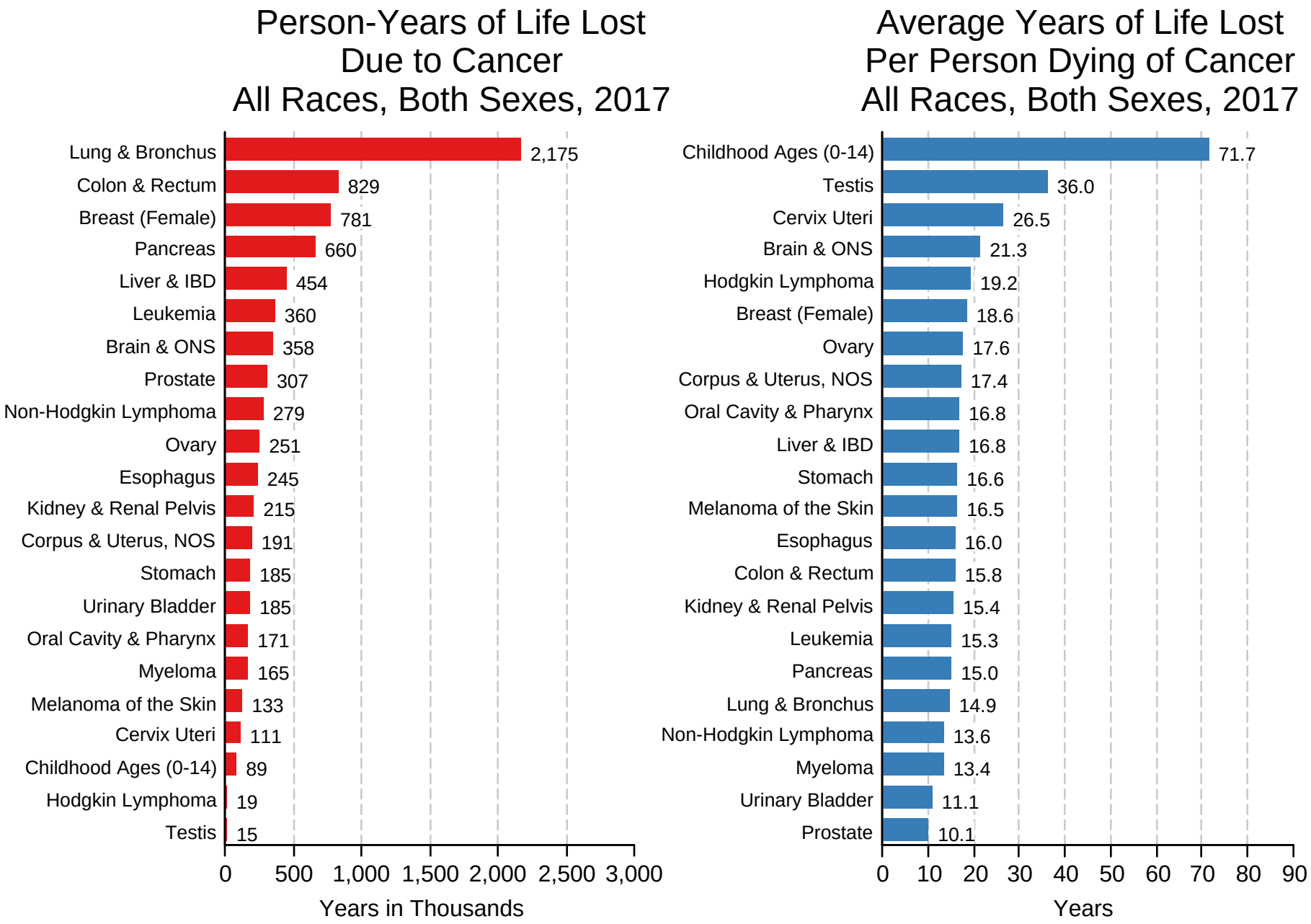
Figure 1.18

Mortality Percent Change between 2008 and 2017
Numbers (burden) vs Rates (risk)
All Races, All Ages, Both Sexes



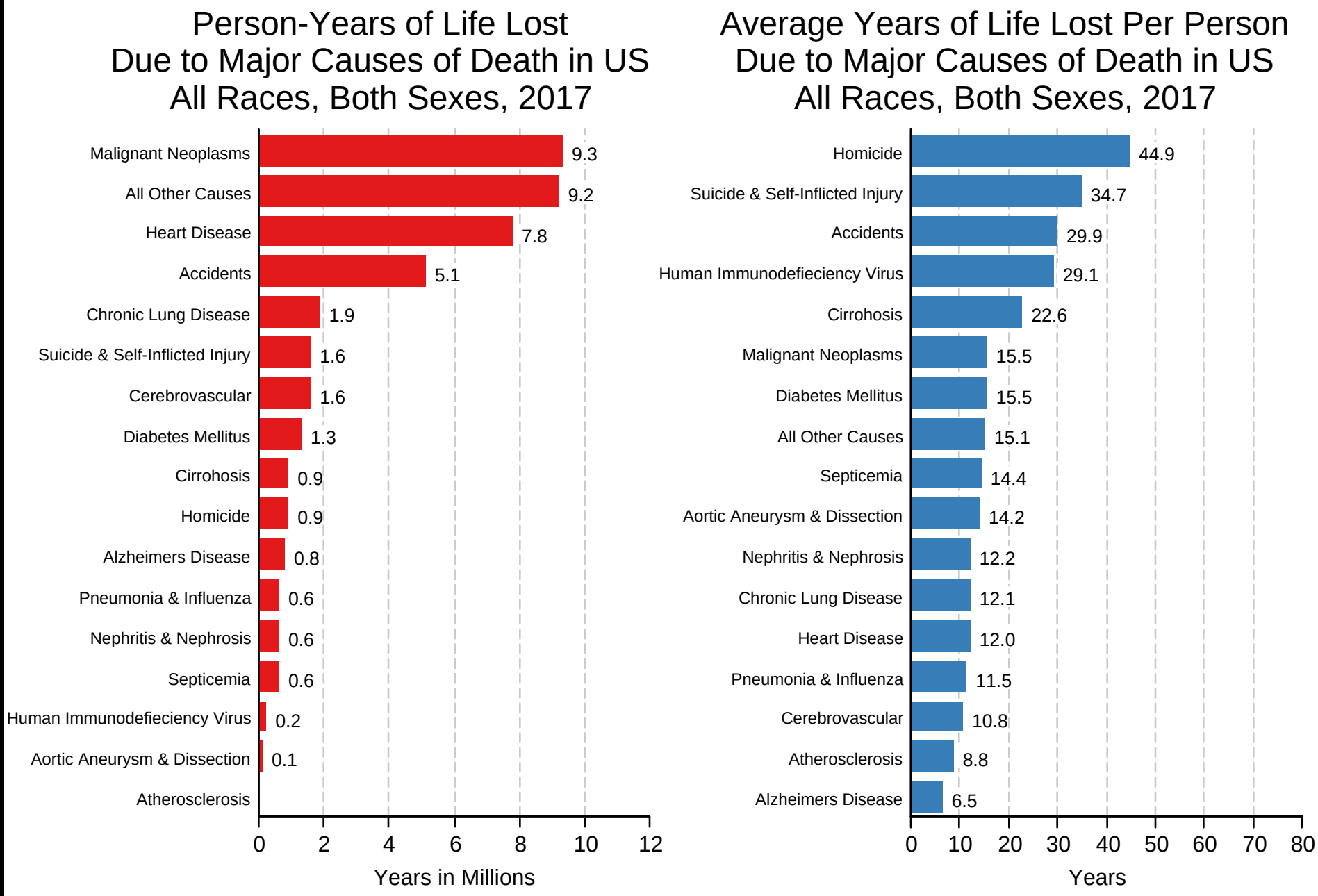
US Mortality estimates based on US age-specific rates applied to US population.
Burden is the change in the number of deaths between 2008 and 2017.
Risk is the change in the cancer death rates between 2008 and 2017.

Figure 1.19



Source: US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention and 2017 Life Tables.

Figure 1.20



Source: US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention and 2017 Life Tables.