CANCER STATISTICS REVIEW 1975-2016: 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 ***CSR*** include:

- We have 3 new registries, Idaho, Massachusetts, New York, joining the SEER program this year. Therefore, we are referring to the new database consisting of the new registries SEER 21 (i.e., SEER 18 plus 3 new registries). Diagnosis year available for SEER 21 registries include 2000-2016. For CSR, we will replace all the incidence related statistics for SEER 13 with SEER 21 registries. These include recent trend, age-adjusted and age-specific rates, probability of developing cancer, stage distribution. For survival statistics, however we will not use data from the 3 new registries. The survival statistics, therefore, will be calculated based on SEER 18 registries.

- The calculation of all complete and limited-duration prevalence estimates were modified to use cases diagnosed from 1992 through 2015 in the SEER 13 areas (excluding the Alaska Native Registry).

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, either through ***SEER*Stat*** software or in an ASCII text format that can be analyzed with standard statistical 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 2016 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 2016 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 2016 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.

Usually the use of a population estimate for July 1 of a particular year reflects the average population of that area for the year. Both Hurricane Katrina and Hurricane Rita struck the Gulf Coast area of the United States in 2005. This had the effect of displacing large populations. Since there weren't any population estimates by age, race, sex, and county for time periods just after the hurricanes, it is very difficult to estimate the actual population at risk for certain areas along the Gulf Coast for 2005. For Louisiana, only the first six months of incidence data for 2005 coupled with ½ of the population estimate for July 1, 2005, were used to calculate cancer incidence. For death rate calculations, no adjustments were made to the total US population, but for the Gulf area, an adjustment for displaced populations was made for 2005 state rates. 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, 1950-2016

Trends in cancer mortality from 1950 to 2016 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 1/1/2016. 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 1975-2016 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 2015.

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 1/1/2016 *were estimated* by multiplying the SEER age- and race-specific prevalence proportions by the corresponding US population estimates based on the average of 2015 and 2016 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 2014-2016 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 = [(State Rate – Total US Rate)/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(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 ≈ 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 α ≈ 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 2019
All Races, By Sex

Primary Site	Estimated New Cases			Estimated Deaths		
	Total	Males	Females	Total	Males	Females
All Sites	1,762,450	870,970	891,480	606,880	321,670	285,210
Oral Cavity and Pharynx	53,000	38,140	14,860	10,860	7,970	2,890
Tongue	17,060	12,550	4,510	3,020	2,220	800
Mouth	14,310	8,430	5,880	2,740	1,800	940
Pharynx	17,870	14,450	3,420	3,450	2,660	790
Other Oral Cavity	3,760	2,710	1,050	1,650	1,290	360
Digestive System	328,030	186,080	141,950	165,460	97,110	68,350
Esophagus	17,650	13,750	3,900	16,080	13,020	3,060
Stomach	27,510	17,230	10,280	11,140	6,800	4,340
Small Intestine	10,590	5,610	4,980	1,590	890	700
Colon[a]	101,420	51,690	49,730	51,020	27,640	23,380
Rectum	44,180	26,810	17,370			
Anus, Anal Canal, and Anorectum	8,300	2,770	5,530	1,280	520	760
Liver and Intrahepatic Bile Duct	42,030	29,480	12,550	31,780	21,600	10,180
Gallbladder and Other Biliary	12,360	5,810	6,550	3,960	1,610	2,350
Pancreas	56,770	29,940	26,830	45,750	23,800	21,950
Other Digestive	7,220	2,990	4,230	2,860	1,230	1,630
Respiratory System	246,440	130,370	116,070	147,510	80,380	67,130
Larynx	12,410	9,860	2,550	3,760	3,010	750
Lung and Bronchus	228,150	116,440	111,710	142,670	76,650	66,020
Other Respiratory	5,880	4,070	1,810	1,080	720	360
Bones and Joints	3,500	2,030	1,470	1,660	960	700
Soft Tissue	12,750	7,240	5,510	5,270	2,840	2,430
Skin (excl. basal & squamous)	104,350	62,320	42,030	11,650	8,030	3,620
Melanoma of the Skin[b]	96,480	57,220	39,260	7,230	4,740	2,490
Other non-epithelial skin	7,870	5,100	2,770	4,420	3,290	1,130
Breast[b]	271,270	2,670	268,600	42,260	500	41,760
Genital Organs	295,290	186,290	109,000	65,540	32,440	33,100
Cervix (uterus)	13,170		13,170	4,250		4,250
Endometrium (uterus)	61,880		61,880	12,160		12,160
Ovary	22,530		22,530	13,980		13,980
Vulva	6,070		6,070	1,280		1,280
Vagina and other genital organs, female	5,350		5,350	1,430		1,430
Prostate	174,650	174,650		31,620	31,620	
Testis	9,560	9,560		410	410	
Penis and other genital organs, male	2,080	2,080		410	410	
Urinary System	158,220	108,450	49,770	33,420	23,290	10,130
Urinary Bladder	80,470	61,700	18,770	17,670	12,870	4,800
Kidney and Renal Pelvis	73,820	44,120	29,700	14,770	9,820	4,950
Ureter and other urinary organs	3,930	2,630	1,300	980	600	380
Eye and Orbit	3,360	1,860	1,500	370	200	170
Brain and Other Nervous System	23,820	13,410	10,410	17,760	9,910	7,850
Endocrine System	54,740	15,650	39,090	3,210	1,560	1,650
Thyroid	52,070	14,260	37,810	2,170	1,020	1,150
Other Endocrine	2,670	1,390	1,280	1,040	540	500
Lymphoma	82,310	45,660	36,650	20,970	12,100	8,870
Hodgkin Lymphoma	8,110	4,570	3,540	1,000	590	410
Non-Hodgkin Lymphoma	74,200	41,090	33,110	19,970	11,510	8,460
Myeloma	32,110	18,130	13,980	12,960	6,990	5,970
Leukemia	61,780	35,920	25,860	22,840	13,150	9,690
Acute lymphocytic leukemia	5,930	3,280	2,650	1,500	850	650
Chronic lymphocytic leukemia	20,720	12,880	7,840	3,930	2,220	1,710
Acute myeloid leukemia	21,450	11,650	9,800	10,920	6,290	4,630
Chronic myeloid leukemia	8,990	5,250	3,740	1,140	660	480
Other leukemia	4,690	2,860	1,830	5,350	3,130	2,220
All Other Sites[c]	31,480	16,750	14,730	45,140	24,240	20,900

Cancer Facts & Figures – 2019, American Cancer Society (ACS), Atlanta, Georgia, 2019.
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 62,930 new cases annually, and melanoma *in situ* accounts for about 95,830 new cases annually.

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

Table 1.2

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

All Races, Males and Females

All Primary Cancer Sites Combined

Age Group	1950	1983	2016	Annual Percent Change 1950-1983	Annual Percent Change 1983-2016	Total Percent Change 1950-2016
Ages 0-4	11.1	4.5	2.2	-3.2*	-2.2*	-79.9
Ages 5-14	6.7	3.9	2.1	-1.7*	-1.8*	-67.8
Ages 15-24	8.6	5.5	3.3	-1.3*	-1.5*	-62.0
Ages 25-34	20.4	13.2	8.6	-1.5*	-1.6*	-57.7
Ages 35-44	63.6	47.5	27.1	-0.8*	-1.9*	-57.4
Ages 45-54	174.2	169.0	93.7	0.0	-1.8*	-46.2
Ages 55-64	391.3	439.2	277.5	0.4*	-1.7*	-29.1
Ages 65-74	710.0	842.5	592.4	0.5*	-1.2*	-16.6
Ages 75-84	1,167.2	1,254.8	1,076.7	0.2*	-0.5*	-7.8
Ages 85+	1,450.7	1,613.7	1,619.9	0.4*	-0.1	11.7
All Ages	195.4	209.2	155.9	0.2*	-1.0*	-20.2

Lung and Bronchus Cancer[b]

Age Group	1950	1983	2016	Annual Percent Change 1950-1983	Annual Percent Change 1983-2016	Total Percent Change 1950-2016
Ages 0-4	-	-	-	-	-	-
Ages 5-14	-	-	-	-	-	-
Ages 15-24	0.2	0.1	0.1	-2.8*	-0.2	-59.3
Ages 25-34	0.8	0.6	0.3	-0.7*	-2.6*	-63.7
Ages 35-44	4.6	9.0	2.2	2.1*	-3.3*	-51.5
Ages 45-54	20.2	51.1	17.8	3.0*	-2.9*	-12.2
Ages 55-64	48.9	144.8	72.4	3.1*	-2.5*	48.3
Ages 65-74	59.4	252.7	173.3	4.0*	-1.1*	191.7
Ages 75-84	55.4	267.2	295.3	4.7*	0.3	433.2
Ages 85+	42.3	187.0	306.2	5.0*	1.3*	623.9
All Ages	14.9	52.7	38.6	3.7*	-1.0*	158.1

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, 1950-2016 and
5-Year Relative Survival (Percent), 1950-2015
Males and Females, By Primary Cancer Site

	Whites			
	U.S. Mortality Percent Change 1950-2016[a]		5-Year Relative Survival (Percent)[b]	
Primary Site	Total	APC	1950-1954	2009-2015
Oral cavity and pharynx	-48.3	-1.2*	46	67.4
Esophagus	24.3	0.7*	4	20.8
Stomach	-89.0	-3.3*	12	28.7
Colon and rectum	-58.9	-1.4*	37	67.6
Colon	-53.8	-1.2*	41	67.3
Rectum	-70.3	-2.1*	40	68.3
Liver and intrahepatic bile duct	66.3	0.9*	1	16.9
Pancreas	28.7	0.1*	1	7.5
Larynx	-43.5	-0.9*	52	64.6
Lung and bronchus	158.9	0.9*	6	18.5
Males	89.0	0.3	5	16.0
Females	459.8	2.3*	9	21.2
Melanoma of the skin	123.8	1.1*	49	93.4
Breast(females)	-39.9	-0.8*	60	92.1
Cervix uteri	-81.6	-3.1*	59	71.8
Corpus and uterus, NOS	-62.3	-1.3*	72	85.7
Ovary	-19.0	-0.4*	30	44.9
Prostate	-37.6	-0.7*	43	99.8
Testis	-68.8	-2.6*	57	97.4
Urinary bladder	-28.9	-0.6*	53	80.2
Kidney and renal pelvis	23.1	0.3*	34	74.5
Brain and nervous system	59.3	0.4*	21	33.9
Thyroid	-36.4	-0.8*	80	98.2
Hodgkin lymphoma	-85.2	-3.3*	30	89.5
Non-Hodgkin lymphoma	61.6	0.6*	33	72.8
Myeloma	202.5	0.9*	6	47.1
Leukemia	-9.9	-0.3*	10	63.3
Childhood (Ages 0-14)	-74.1	-2.6*	20	85.1
All Sites	-20.1	-0.3*	35	69.8

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 2009-2015 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 2016.

* 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] (2012-2016) Total	Males	Females	US Mortality[b] (2012-2016) Total	Males	Females	Survival[c] (%) (2009-2015) Total	Males	Females
All Sites	442.0	481.0	417.1	161.0	193.1	137.7	67.1	66.3	68.0
Oral Cavity & Pharynx:	11.3	17.0	6.4	2.5	3.9	1.3	65.3	64.6	67.1
Lip	0.6	1.0	0.3	0.0	0.0	0.0	89.7	90.0	89.0
Tongue	3.5	5.2	1.9	0.6	1.0	0.4	66.4	66.8	65.3
Salivary gland	1.3	1.7	1.0	0.3	0.4	0.2	71.4	64.2	81.4
Floor of mouth	0.5	0.7	0.3	0.0	0.0	0.0	51.7	49.4	56.8
Gum & other oral cavity	1.5	1.9	1.3	0.4	0.5	0.3	59.0	55.4	63.3
Nasopharynx	0.6	0.9	0.4	0.2	0.3	0.1	61.3	59.5	65.6
Tonsil	2.0	3.4	0.7	0.2	0.4	0.1	74.3	74.9	71.2
Oropharynx	0.5	0.8	0.2	0.3	0.4	0.1	47.1	48.5	41.2
Hypopharynx	0.6	1.0	0.2	0.1	0.2	0.0	34.6	34.3	36.2
Other oral cavity & pharynx	0.3	0.4	0.1	0.4	0.7	0.2	46.6	49.2	36.9
Digestive System:	81.0	98.7	66.4	41.1	52.7	31.6	43.5	41.1	46.4
Esophagus	4.3	7.3	1.8	4.0	7.1	1.5	19.9	19.4	21.5
Stomach	7.4	10.0	5.3	3.1	4.2	2.3	31.5	28.7	35.7
Small intestine	2.4	2.7	2.1	0.4	0.5	0.3	68.0	67.9	68.2
Colon & Rectum:	38.6	44.2	33.9	14.2	16.9	11.9	64.4	64.0	64.9
Colon	27.1	29.9	24.8	-	-	-	63.4	63.2	63.5
Rectum	11.5	14.3	9.1	-	-	-	66.7	65.4	68.5
Anus, anal canal & anorectum	1.9	1.6	2.2	0.3	0.2	0.3	68.3	61.9	72.0
Liver & intrahepatic bile duct	8.8	13.6	4.7	6.5	9.6	3.9	18.4	18.0	19.5
Gallbladder	1.2	0.9	1.5	0.6	0.4	0.7	18.5	19.3	18.2
Other biliary	1.9	2.3	1.5	0.4	0.5	0.4	17.9	19.0	16.6
Pancreas	12.9	14.6	11.5	11.0	12.6	9.6	9.3	9.4	9.2
Retroperitoneum	0.4	0.4	0.4	0.1	0.1	0.1	54.8	53.1	56.3
Peritoneum, omentum & mesentery	0.5	0.1	0.8	0.3	0.1	0.4	32.4	34.4	32.3
Other digestive system	0.7	0.8	0.6	0.3	0.4	0.3	7.9	6.8	9.0
Respiratory System:	58.7	69.4	50.6	43.1	53.8	34.9	22.3	20.7	24.3
Nose, nasal cavity & middle ear	0.7	0.9	0.5	0.1	0.2	0.1	57.9	58.5	57.1
Larynx	3.0	5.2	1.1	1.0	1.8	0.4	60.3	60.9	57.8
Lung & bronchus	54.9	63.0	48.9	41.9	51.6	34.4	19.4	16.1	23.0
Pleura[d]	0.0	0.0	0.0	0.1	0.1	0.0	25.8	20.3	32.9
Trachea & other respiratory organs	0.2	0.3	0.1	0.1	0.1	0.0	53.8	53.1	55.7
Bones & joints	1.0	1.1	0.8	0.4	0.5	0.3	66.2	64.0	69.1
Soft tissue (including heart)	3.5	4.2	2.9	1.3	1.5	1.2	64.9	64.2	65.8
Skin (excl. basal & squamous):	24.3	31.6	19.0	3.5	5.4	2.0	91.6	89.7	94.1
Melanoma of the skin	22.2	28.8	17.5	2.5	3.7	1.5	92.2	90.4	94.6
Other non-epithelial skin	2.0	2.8	1.5	1.0	1.7	0.5	84.3	82.2	87.3
Breast	68.4	1.2	127.5	11.4	0.3	20.6	89.8	83.6	89.9
Breast (*in situ*)	17.5	0.1	33.2	-	-	-	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 2016. 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] (2012-2016) Total	Males	Females	US Mortality[b] (2012-2016) Total	Males	Females	Survival[c] (%) (2009-2015) Total	Males	Females
Female Genital System:	27.1	-	51.0	8.3	-	15.1	69.5	-	69.5
Cervix uteri	3.8	-	7.3	1.2	-	2.3	65.8	-	65.8
Corpus uteri	14.2	-	26.7	1.2	-	2.1	82.6	-	82.6
Uterus, NOS	0.5	-	0.8	1.5	-	2.6	28.8	-	28.8
Ovary[d]	6.1	-	11.4	3.9	-	7.0	47.6	-	47.6
Vagina	0.4	-	0.7	0.1	-	0.2	46.7	-	46.7
Vulva	1.4	-	2.5	0.3	-	0.5	71.1	-	71.1
Other female genital system	0.8	-	1.5	0.2	-	0.3	52.0	-	52.0
Male Genital System:	53.4	116.5	-	8.1	19.7	-	97.7	97.7	-
Prostate	50.0	109.5	-	7.8	19.2	-	98.0	98.0	-
Testis	2.9	5.9	-	0.1	0.3	-	95.2	95.2	-
Penis	0.4	0.9	-	0.1	0.2	-	66.7	66.7	-
Other male genital system	0.1	0.3	-	0.0	0.0	-	82.6	82.6	-
Urinary System:	37.1	58.7	20.2	8.4	13.4	4.7	75.5	76.1	74.0
Urinary bladder	20.1	35.2	8.7	4.4	7.6	2.1	77.1	78.3	73.2
Kidney & renal pelvis	16.1	22.1	10.9	3.8	5.5	2.3	74.8	74.2	75.9
Ureter	0.5	0.8	0.4	0.1	0.2	0.1	46.5	47.7	44.7
Other urinary system	0.4	0.6	0.2	0.1	0.2	0.1	48.3	53.0	39.5
Eye & Orbit	0.9	1.0	0.8	0.1	0.1	0.1	83.3	83.3	83.4
Brain & Nervous System:[e]	6.4	7.5	5.4	4.4	5.4	3.6	32.9	31.6	34.6
Brain	6.0	7.1	5.0	-	-	-	29.7	28.9	30.8
Cranial nerves & other nervous system	0.4	0.4	0.4	-	-	-	79.9	76.9	83.0
Endocrine System:	16.6	8.9	24.0	0.8	0.8	0.8	96.6	92.5	97.9
Thyroid	15.8	8.0	23.3	0.5	0.5	0.5	98.2	95.7	98.9
Other endocrine & thymus	0.8	0.9	0.7	0.3	0.3	0.3	65.4	65.3	65.4
Lymphoma:	22.3	26.9	18.6	5.9	7.6	4.6	74.0	72.6	75.5
Hodgkin lymphoma	2.7	3.0	2.3	0.3	0.4	0.2	86.6	85.6	87.8
Non-Hodgkin lymphoma	19.6	23.9	16.2	5.6	7.3	4.4	72.0	70.7	73.7
Myeloma	6.9	8.7	5.6	3.3	4.2	2.7	52.2	52.1	52.4
Leukemia:	14.1	18.1	10.9	6.5	8.8	4.9	62.7	63.6	61.5
Lymphocytic:	7.1	9.4	5.2	1.8	2.5	1.2	80.6	80.9	80.1
Acute lymphocytic	1.7	1.9	1.5	0.4	0.5	0.4	68.6	68.2	69.2
Chronic lymphocytic	4.9	6.8	3.5	1.2	1.8	0.8	85.1	85.0	85.3
Other lymphocytic	0.4	0.6	0.2	0.1	0.2	0.1	82.0	85.7	70.4
Myeloid & Monocytic:	6.5	8.1	5.3	3.3	4.4	2.6	41.8	41.6	42.0
Acute myeloid	4.3	5.2	3.5	2.8	3.6	2.2	28.3	27.5	29.3
Chronic myeloid	1.9	2.4	1.4	0.3	0.4	0.2	69.2	68.2	70.6
Acute monocytic	0.2	0.2	0.2	0.0	0.0	0.0	22.9	19.7	26.7
Other myeloid & monocytic	0.1	0.2	0.1	0.2	0.3	0.2	36.3	37.6	34.6
Other leukemia:	0.5	0.6	0.4	1.4	1.9	1.1	33.5	33.7	33.3
Other acute leukemia	0.2	0.3	0.2	0.5	0.6	0.4	24.8	25.3	24.2
Aleukemic, subleukemic & NOS	0.3	0.3	0.2	1.0	1.3	0.7	40.2	40.4	39.7
Kaposi Sarcoma[f]	0.5	1.0	0.1	-	-	-	74.4	73.9	78.7
Mesothelioma[f]	0.9	1.6	0.4	-	-	-	10.3	8.0	16.9
Ill-defined & unspecified	7.6	8.8	6.7	11.8	14.8	9.4	18.5	21.7	15.2

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 2016. 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] (2012-2016) Total	Males	Females	US Mortality[b] (2012-2016) Total	Males	Females	Survival[c] (%) (2009-2015) Total	Males	Females
All Sites	451.7	486.0	430.9	161.5	193.0	138.3	67.5	66.5	68.6
Oral Cavity & Pharynx:	11.9	17.9	6.6	2.5	3.8	1.3	66.7	66.4	67.7
Lip	0.7	1.2	0.4	0.0	0.0	0.0	89.6	89.9	88.7
Tongue	3.8	5.8	2.0	0.7	1.0	0.4	68.1	68.6	66.5
Salivary gland	1.3	1.8	1.0	0.3	0.4	0.2	69.0	61.5	80.1
Floor of mouth	0.5	0.7	0.3	0.0	0.0	0.0	53.1	50.8	57.7
Gum & other oral cavity	1.6	1.9	1.3	0.4	0.5	0.3	58.9	55.5	63.0
Nasopharynx	0.4	0.6	0.2	0.1	0.2	0.1	58.3	57.0	61.5
Tonsil	2.2	3.8	0.7	0.3	0.4	0.1	75.6	76.0	73.0
Oropharynx	0.5	0.8	0.2	0.3	0.4	0.1	50.6	52.0	44.7
Hypopharynx	0.6	1.0	0.2	0.1	0.2	0.0	37.7	37.3	39.2
Other oral cavity & pharynx	0.3	0.5	0.1	0.4	0.7	0.2	49.8	52.9	37.9
Digestive System:	79.1	95.9	64.8	40.1	51.4	30.6	43.7	41.4	46.7
Esophagus	4.6	7.9	1.8	4.2	7.5	1.5	20.7	20.4	21.9
Stomach	6.6	8.9	4.6	2.7	3.7	2.0	30.1	27.4	34.7
Small intestine	2.3	2.7	2.0	0.4	0.5	0.3	68.6	68.0	69.2
Colon & Rectum:	38.1	43.4	33.6	13.8	16.5	11.7	64.9	64.5	65.3
Colon	26.8	29.4	24.6	-	-	-	64.3	64.1	64.4
Rectum	11.3	14.0	8.9	-	-	-	66.4	65.4	67.7
Anus, anal canal & anorectum	2.0	1.6	2.5	0.3	0.2	0.3	69.3	63.0	72.7
Liver & intrahepatic bile duct	8.0	12.2	4.3	6.1	8.9	3.7	17.7	17.5	18.3
Gallbladder	1.1	0.8	1.4	0.6	0.4	0.7	18.2	19.2	17.8
Other biliary	1.8	2.3	1.5	0.4	0.5	0.4	17.8	19.6	15.6
Pancreas	13.0	14.8	11.4	10.9	12.6	9.4	9.2	9.5	9.0
Retroperitoneum	0.4	0.4	0.4	0.1	0.1	0.1	54.2	53.4	55.0
Peritoneum, omentum & mesentery	0.5	0.1	0.9	0.3	0.1	0.4	31.6	30.3	31.7
Other digestive system	0.7	0.8	0.6	0.3	0.4	0.3	7.8	7.0	8.8
Respiratory System:	60.7	70.0	53.6	43.9	53.8	36.2	22.5	20.9	24.3
Nose, nasal cavity & middle ear	0.7	0.9	0.5	0.1	0.2	0.1	59.1	60.5	56.9
Larynx	3.0	5.2	1.2	1.0	1.7	0.4	61.5	62.1	59.2
Lung & bronchus	56.7	63.5	51.8	42.7	51.7	35.6	19.5	16.2	23.0
Pleura[d]	0.0	0.0	0.0	0.1	0.1	0.0	23.4	23.8	22.0
Trachea & other respiratory organs	0.2	0.3	0.1	0.1	0.1	0.0	53.7	52.2	57.9
Bones & joints	1.0	1.2	0.9	0.5	0.6	0.4	66.0	63.7	69.2
Soft tissue (including heart)	3.5	4.3	2.9	1.3	1.6	1.1	65.5	64.9	66.3
Skin (excl. basal & squamous):	28.8	37.0	22.8	4.0	6.2	2.3	90.9	88.9	93.6
Melanoma of the skin	26.6	33.9	21.3	2.9	4.3	1.8	91.6	89.6	94.2
Other non-epithelial skin	2.1	3.0	1.5	1.1	1.9	0.5	81.6	79.4	84.8
Breast	69.2	1.2	130.5	11.1	0.3	20.1	90.8	85.9	90.8
Breast (*in situ*)	17.2	0.1	33.1	-	-	-	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 2016. 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] (2012-2016) Total	Males	Females	US Mortality[b] (2012-2016) Total	Males	Females	Survival[c] (%) (2009-2015) Total	Males	Females
Female Genital System:	27.4	-	52.2	8.1	-	15.0	70.8	-	70.8
Cervix uteri	3.6	-	7.2	1.1	-	2.2	67.2	-	67.2
Corpus uteri	14.4	-	27.4	1.1	-	2.0	84.8	-	84.8
Uterus, NOS	0.4	-	0.7	1.3	-	2.4	31.6	-	31.6
Ovary[d]	6.3	-	11.9	4.0	-	7.3	47.6	-	47.6
Vagina	0.4	-	0.7	0.1	-	0.2	46.5	-	46.5
Vulva	1.5	-	2.8	0.3	-	0.6	70.7	-	70.7
Other female genital system	0.8	-	1.6	0.2	-	0.3	50.6	-	50.6
Male Genital System:	51.1	110.0	-	7.6	18.5	-	97.8	97.8	-
Prostate	47.0	101.9	-	7.4	18.0	-	98.1	98.1	-
Testis	3.5	7.0	-	0.1	0.3	-	95.3	95.3	-
Penis	0.4	0.9	-	0.1	0.2	-	66.5	66.5	-
Other male genital system	0.1	0.3	-	0.0	0.0	-	83.4	83.4	-
Urinary System:	39.8	62.8	21.4	8.7	14.1	4.8	75.8	76.3	74.5
Urinary bladder	22.2	38.5	9.5	4.6	8.0	2.2	77.5	78.5	74.3
Kidney & renal pelvis	16.6	22.8	11.3	3.9	5.7	2.4	74.8	74.0	76.0
Ureter	0.6	0.8	0.4	0.1	0.2	0.1	47.6	48.6	46.3
Other urinary system	0.4	0.6	0.2	0.1	0.2	0.1	48.2	52.4	39.6
Eye & Orbit	1.0	1.2	0.9	0.1	0.1	0.1	82.5	82.2	82.8
Brain & Nervous System:[e]	7.0	8.3	6.0	4.8	5.8	3.9	31.7	30.4	33.4
Brain	6.6	7.8	5.6	-	-	-	28.6	27.8	29.6
Cranial nerves & other nervous system	0.4	0.5	0.4	-	-	-	80.7	77.1	84.3
Endocrine System:	17.3	9.4	25.2	0.8	0.8	0.7	96.9	93.1	98.2
Thyroid	16.5	8.6	24.5	0.5	0.5	0.5	98.4	96.1	99.0
Other endocrine & thymus	0.7	0.8	0.7	0.3	0.3	0.3	65.0	64.9	65.1
Lymphoma:	23.4	28.1	19.5	6.2	8.0	4.8	74.3	73.0	75.8
Hodgkin lymphoma	2.8	3.1	2.5	0.3	0.4	0.3	86.8	85.9	87.9
Non-Hodgkin lymphoma	20.6	25.0	17.0	5.9	7.6	4.5	72.4	71.1	74.0
Myeloma	6.3	8.1	4.9	3.1	4.0	2.4	51.3	51.3	51.3
Leukemia:	14.9	19.1	11.5	6.8	9.1	5.1	63.0	63.7	62.1
Lymphocytic:	7.7	10.1	5.6	1.9	2.6	1.3	80.7	80.8	80.5
Acute lymphocytic	1.9	2.1	1.6	0.5	0.6	0.4	68.5	67.7	69.6
Chronic lymphocytic	5.4	7.3	3.8	1.3	1.9	0.8	85.0	84.7	85.4
Other lymphocytic	0.5	0.7	0.2	0.1	0.2	0.1	83.2	86.4	72.5
Myeloid & Monocytic:	6.7	8.4	5.4	3.5	4.5	2.7	40.9	40.6	41.4
Acute myeloid	4.4	5.4	3.6	2.9	3.7	2.2	27.9	27.0	29.0
Chronic myeloid	1.9	2.5	1.5	0.3	0.4	0.2	68.1	67.1	69.5
Acute monocytic	0.2	0.2	0.2	0.0	0.0	0.0	23.5	20.2	27.5
Other myeloid & monocytic	0.2	0.2	0.1	0.2	0.4	0.2	33.6	33.9	33.0
Other leukemia:	0.5	0.6	0.4	1.5	2.0	1.1	32.5	31.8	33.1
Other acute leukemia	0.2	0.3	0.2	0.5	0.6	0.4	24.9	25.2	24.3
Aleukemic, subleukemic & NOS	0.3	0.3	0.2	1.0	1.3	0.7	38.7	37.4	39.8
Kaposi Sarcoma[f]	0.4	0.8	0.1	-	-	-	77.5	76.2	83.4
Mesothelioma[f]	1.0	1.8	0.5	-	-	-	9.7	7.8	15.7
Ill-defined & unspecified	7.8	9.1	6.8	11.9	15.0	9.5	19.3	23.1	15.3

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 2016. 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] (2012-2016)			US Mortality[b] (2012-2016)			Survival[c] (%) (2009-2015)		
	Total	Males	Females	Total	Males	Females	Total	Males	Females
All Sites	442.9	520.8	391.3	185.6	233.5	156.0	61.8	63.6	59.7
Oral Cavity & Pharynx:	8.6	13.4	5.0	2.7	4.7	1.3	48.4	46.7	52.0
Lip	0.1	0.1	-	-	-	-	69.9	66.6	-
Tongue	2.0	3.2	1.1	0.5	0.8	0.3	44.3	45.3	42.0
Salivary gland	1.1	1.1	1.1	0.2	0.3	0.1	76.4	71.3	81.0
Floor of mouth	0.4	0.7	0.2	0.0	0.0	-	38.9	39.0	38.2
Gum & other oral cavity	1.3	1.6	1.0	0.3	0.5	0.2	52.9	48.9	57.1
Nasopharynx	0.7	1.0	0.4	0.2	0.4	0.1	52.5	53.7	49.9
Tonsil	1.5	2.8	0.6	0.2	0.4	0.1	57.9	59.0	53.2
Oropharynx	0.5	1.0	0.2	0.4	0.6	0.2	28.9	30.0	25.3
Hypopharynx	0.8	1.5	0.3	0.2	0.3	0.0	19.8	20.2	17.3
Other oral cavity & pharynx	0.2	0.4	0.1	0.6	1.2	0.2	30.4	29.4	32.6
Digestive System:	95.7	118.8	79.0	52.3	68.5	40.7	39.9	36.2	44.0
Esophagus	3.9	6.4	2.1	3.3	5.6	1.7	13.0	10.8	17.4
Stomach	10.3	14.1	7.7	5.5	8.2	3.8	32.0	26.5	38.9
Small intestine	3.7	4.2	3.3	0.6	0.7	0.5	66.3	66.8	65.6
Colon & Rectum:	44.6	52.4	39.1	18.9	23.8	15.5	58.4	56.2	60.4
Colon	32.8	37.5	29.5	-	-	-	56.5	55.6	57.3
Rectum	11.8	14.9	9.5	-	-	-	63.3	57.9	69.6
Anus, anal canal & anorectum	2.1	2.3	1.9	0.3	0.3	0.2	61.2	56.0	66.3
Liver & intrahepatic bile duct	10.8	17.8	5.4	8.4	13.2	4.7	15.1	14.1	18.2
Gallbladder	1.8	1.5	2.2	0.9	0.7	1.0	17.4	14.6	18.4
Other biliary	1.7	2.0	1.5	0.4	0.4	0.4	14.7	11.3	17.5
Pancreas	15.2	16.7	14.0	13.3	14.8	12.2	9.0	7.7	10.1
Retroperitoneum	0.4	0.4	0.4	0.1	0.1	0.1	58.2	57.4	58.6
Peritoneum, omentum & mesentery	0.4	0.1	0.6	0.2	0.1	0.3	32.9	44.9	31.6
Other digestive system	0.9	1.0	0.8	0.4	0.6	0.3	6.4	5.4	7.5
Respiratory System:	61.1	82.2	46.7	46.2	65.6	33.1	20.1	18.4	22.4
Nose, nasal cavity & middle ear	0.6	0.9	0.5	0.1	0.2	0.1	50.9	46.0	57.1
Larynx	4.0	7.6	1.5	1.6	3.1	0.5	51.1	51.7	48.7
Lung & bronchus	56.2	73.5	44.6	44.3	62.1	32.4	17.1	13.9	21.0
Pleura[d]	-	-	-	0.0	0.1	0.0	-	-	-
Trachea & other respiratory organs	0.2	0.2	0.1	0.1	0.1	0.1	46.7	47.4	44.3
Bones & joints	0.8	0.8	0.7	0.4	0.6	0.4	65.2	64.7	65.8
Soft tissue (including heart)	3.4	3.7	3.2	1.5	1.5	1.5	60.1	58.9	61.0
Skin (excl. basal & squamous):	2.1	2.3	2.0	0.8	1.2	0.5	81.7	76.4	86.1
Melanoma of the skin	1.0	1.1	0.9	0.4	0.4	0.3	66.8	58.5	73.0
Other non-epithelial skin	1.1	1.2	1.0	0.4	0.7	0.2	93.3	88.7	96.5
Breast	70.9	1.8	124.0	16.4	0.5	28.1	81.4	72.5	81.5
Breast (*in situ*)	18.8	0.2	33.3	-	-	-	100.0	82.0	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 2016. 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] (2012-2016) Total	Males	Females	US Mortality[b] (2012-2016) Total	Males	Females	Survival[c] (%) (2009-2015) Total	Males	Females
Female Genital System:	28.1	-	49.4	11.1	-	19.0	56.1	-	56.1
Cervix uteri	4.8	-	8.7	2.0	-	3.5	55.4	-	55.4
Corpus uteri	14.7	-	25.7	2.0	-	3.4	64.6	-	64.6
Uterus, NOS	1.0	-	1.7	3.0	-	5.1	21.8	-	21.8
Ovary[d]	5.3	-	9.2	3.6	-	6.1	38.8	-	38.8
Vagina	0.6	-	1.0	0.2	-	0.3	45.5	-	45.5
Vulva	1.0	-	1.8	0.2	-	0.3	71.4	-	71.4
Other female genital system	0.7	-	1.2	0.2	-	0.3	56.4	-	56.4
Male Genital System:	76.2	179.6	-	14.5	39.3	-	95.5	95.5	-
Prostate	74.9	176.7	-	14.3	38.9	-	95.7	95.7	-
Testis	0.8	1.6	-	0.1	0.1	-	91.8	91.8	-
Penis	0.4	1.0	-	0.1	0.2	-	58.6	58.6	-
Other male genital system	0.1	0.2	-	0.0	0.1	-	63.3	63.3	-
Urinary System:	29.8	44.9	19.2	7.2	11.0	4.8	70.7	71.8	68.8
Urinary bladder	11.8	19.7	6.6	3.5	5.4	2.4	64.3	68.5	56.0
Kidney & renal pelvis	17.4	24.3	12.1	3.6	5.5	2.3	75.1	74.5	76.0
Ureter	0.2	0.3	0.2	0.0	0.0	0.0	31.8	23.5	35.2
Other urinary system	0.5	0.6	0.4	0.1	0.2	0.1	38.5	47.3	28.1
Eye & Orbit	0.3	0.3	0.2	0.0	0.0	0.0	91.0	88.7	91.0
Brain & Nervous System:[e]	3.9	4.7	3.3	2.6	3.2	2.1	38.7	37.1	40.4
Brain	3.5	4.3	3.0	-	-	-	34.9	33.7	36.1
Cranial nerves & other nervous system	0.4	0.4	0.3	-	-	-	77.6	77.8	77.2
Endocrine System:	10.5	5.0	15.3	0.9	0.8	0.9	94.0	86.9	95.9
Thyroid	9.6	4.0	14.3	0.5	0.4	0.6	97.2	93.3	97.8
Other endocrine & thymus	0.9	1.0	0.9	0.4	0.4	0.3	66.3	65.7	66.7
Lymphoma:	17.4	20.8	14.8	4.4	5.5	3.5	69.9	67.1	73.2
Hodgkin lymphoma	2.7	3.1	2.3	0.3	0.4	0.2	84.1	81.2	87.5
Non-Hodgkin lymphoma	14.7	17.7	12.4	4.1	5.2	3.3	66.5	63.7	69.8
Myeloma	13.7	16.3	11.9	6.2	7.4	5.4	53.9	53.4	54.4
Leukemia:	10.9	13.9	8.9	5.5	7.2	4.4	56.8	59.1	54.2
Lymphocytic:	4.6	6.3	3.4	1.4	2.0	1.0	72.1	74.5	68.8
Acute lymphocytic	1.0	1.1	0.9	0.3	0.4	0.3	63.7	64.9	62.1
Chronic lymphocytic	3.4	4.9	2.4	1.0	1.5	0.7	75.8	78.2	72.5
Other lymphocytic	0.2	0.3	0.1	0.1	0.1	0.1	65.1	70.7	47.9
Myeloid & Monocytic:	5.7	6.9	5.0	2.7	3.4	2.2	43.9	43.6	44.1
Acute myeloid	3.7	4.4	3.3	2.2	2.7	1.9	27.9	26.7	29.0
Chronic myeloid	1.8	2.2	1.5	0.3	0.4	0.2	71.0	69.7	72.4
Acute monocytic	0.1	0.2	0.1	0.0	0.0	-	25.5	26.3	24.4
Other myeloid & monocytic	0.1	0.2	0.1	0.2	0.2	0.1	42.0	44.8	37.2
Other leukemia:	0.6	0.7	0.5	1.4	1.8	1.1	38.9	41.7	34.3
Other acute leukemia	0.2	0.3	0.2	0.4	0.5	0.3	21.3	18.5	26.3
Aleukemic, subleukemic & NOS	0.4	0.4	0.3	1.0	1.4	0.8	46.3	52.8	37.9
Kaposi Sarcoma[f]	1.1	2.1	0.2	-	-	-	64.3	65.9	33.1
Mesothelioma[f]	0.4	0.8	0.2	-	-	-	16.8	10.5	27.9
Ill-defined & unspecified	8.2	9.3	7.4	12.8	16.5	10.3	13.2	12.1	14.1

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 2016. 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, 2007-2016

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	-1.3*	-2.3*	-0.3*	-1.5*	-1.8*	-1.4*
Oral Cavity & Pharynx:	0.6*	0.6*	0.2	0.4	0.6*	-0.3
Lip	-0.5	-1.1	0.7	-0.5	-1.7	1.0
Tongue	1.4*	1.5*	1.2*	1.0*	1.4*	0.1
Salivary gland	0.2	0.0	0.2	1.7*	1.8*	1.2
Floor of mouth	-3.2*	-4.0*	-1.9	-4.7*	-3.2	-8.1*
Gum & other oral cavity	0.0	0.2	-0.3	0.5	0.8	0.0
Nasopharynx	-1.2*	-1.0	-1.7*	-1.3*	-0.8*	-2.4
Tonsil	2.2*	2.4*	1.2	2.2*	2.2*	2.0*
Oropharynx	2.2*	2.6*	0.9	3.1*	3.6*	1.7
Hypopharynx	-2.7*	-2.7*	-3.3*	0.5	0.9	-1.6
Other oral cavity & pharynx	2.9	3.5*	0.4	-2.4*	-2.4*	-3.0*
Digestive System:	-1.2*	-1.3*	-1.1*	-0.7*	-0.7*	-0.8*
Esophagus	-1.5*	-1.8*	-1.2*	-1.0*	-1.1*	-1.3*
Stomach	-0.9*	-1.5*	-0.3	-2.0*	-2.4*	-1.8*
Small intestine	1.6*	1.3*	2.0*	1.3*	1.2*	1.5
Colon & Rectum:	-2.6*	-2.8*	-2.5*	-2.3*	-2.4*	-2.4*
Colon	-2.9*	-3.2*	-2.8*	-	-	-
Rectum	-1.8*	-1.9*	-1.9*	-	-	-
Anus, anal canal & anorectum	1.4*	0.4	2.1*	2.9*	3.0*	3.0*
Liver & intrahepatic bile duct	1.7*	1.4*	2.3*	2.4*	2.2*	2.6*
Gallbladder	-0.1	0.6	-0.2	-0.9*	-1.2	-0.6
Other biliary	-0.1	-0.2	-0.2	0.1	0.1	0.0
Pancreas	0.4*	0.3	0.4	0.1	0.1	0.1
Retroperitoneum	-0.5	-0.8	-0.3	1.0	0.7	1.2
Peritoneum, omentum & mesentery	-4.6*	-3.0	-4.6*	0.6	2.9*	0.3
Other digestive system	5.8*	5.6*	5.9*	3.0*	2.5*	3.3*
Respiratory System:	-2.3*	-3.0*	-1.7*	-2.9*	-3.4*	-2.3*
Nose, nasal cavity & middle ear	-0.6	-0.8	-0.4	-2.1*	-1.7	-2.9*
Larynx	-2.8*	-2.9*	-3.0*	-2.0*	-2.1*	-2.3*
Lung & bronchus	-2.3*	-3.0*	-1.7*	-2.9*	-3.5*	-2.3*
Pleura	-3.2	-3.6	-3.1	2.7*	2.2	3.7*
Trachea & other respiratory organs	-1.1	-0.7	-2.0	0.0	-0.2	0.1
Bones & joints	0.2	0.3	0.0	0.5	0.5	0.4
Soft tissue (including heart)	0.4*	0.5*	0.1	0.3	0.3	0.2
Skin (excl. basal & squamous):	1.2*	1.2*	1.0*	-0.8	-0.7	-1.3*
Melanoma of the skin	1.2*	1.2*	1.1*	-1.9*	-2.0*	-2.0*
Other non-epithelial skin	0.7	0.9	0.0	2.2*	2.3*	1.2
Breast	-0.1	0.3	0.1	-1.7*	-0.8	-1.5*
Breast (*in situ*)	-1.1*	-1.7	-0.9*	-	-	-

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, 2007-2016

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	-	0.1	-0.7*	-	-0.5*
Cervix uteri	-1.2*	-	-1.1*	-0.8*	-	-0.6*
Corpus uteri	0.8*	-	1.0*	2.3*	-	2.6*
Uterus, NOS	3.2*	-	3.4*	1.3*	-	1.6*
Ovary[c]	-2.2*	-	-2.0*	-2.5*	-	-2.3*
Vagina	-1.2*	-	-1.0	-1.5*	-	-1.2
Vulva	0.3	-	0.5	1.1*	-	1.5*
Other female genital system	8.0*	-	8.0*	6.3*	-	6.6*
Male Genital System:	-5.2*	-5.4*	-	-1.9*	-2.6*	-
Prostate	-5.5*	-5.7*	-	-2.0*	-2.7*	-
Testis	0.5*	0.4*	-	0.9	0.8	-
Penis	0.0	-0.3	-	1.4*	1.1	-
Other male genital system	0.5	0.1	-	5.8*	5.0*	-
Urinary System:	-0.7*	-1.0*	-0.7*	-0.5*	-0.5*	-1.1*
Urinary bladder	-1.5*	-1.7*	-1.6*	-0.2	-0.3*	-0.6*
Kidney & renal pelvis	0.3	0.2	0.1	-1.0*	-0.8*	-1.6*
Ureter	-2.1*	-2.1*	-2.5*	0.0	0.0	0.0
Other urinary system	2.0	1.1	3.6*	-0.1	0.0	-0.9
Eye & Orbit	-0.4	-0.5	-0.5	1.5*	2.0*	1.0
Brain & Nervous System:[d]	-0.9*	-0.9*	-0.9	0.6*	0.6*	0.6*
Brain	-0.9*	-1.0*	-0.8	-	-	-
Cranial nerves & other nervous system	-1.0*	0.6	-2.4*	-	-	-
Endocrine System:	1.9*	2.1*	1.9*	-0.1	0.3*	-0.5
Thyroid	2.0*	2.5*	2.0*	0.2	0.7	-0.2
Other endocrine & thymus	-0.6	-0.9	-0.4	-0.6	-0.2	-1.1
Lymphoma:	-0.8*	-0.8*	-0.9*	-2.3*	-2.2*	-2.7*
Hodgkin lymphoma	-1.7*	-1.7*	-1.6*	-4.0*	-3.4*	-4.7*
Non-Hodgkin lymphoma	-0.7*	-0.7*	-0.8*	-2.2*	-2.1*	-2.6*
Myeloma	0.9*	0.8	0.9*	-0.4	-0.6*	-0.4
Leukemia:	0.0	0.0	-0.1	-1.4*	-1.5*	-1.5*
Lymphocytic:	-0.6	-0.6	-0.7	-2.1*	-2.2*	-2.0*
Acute lymphocytic	0.6	0.8*	0.3	-0.7*	-0.6	-0.9
Chronic lymphocytic	-0.9	-0.9	-1.0	-2.6*	-2.7*	-2.6*
Other lymphocytic	-1.7*	-1.8*	-1.7	-1.2*	-1.6*	-0.2
Myeloid & Monocytic:	1.2*	1.2*	1.0	-0.1	-0.3	-0.1
Acute myeloid	1.6*	1.8*	1.2	-0.2	-0.4*	-0.1
Chronic myeloid	1.3*	1.1	1.4*	-0.7	-0.8	-0.8
Acute monocytic	-5.0*	-5.7*	-4.3*	-3.1*	-2.6	-4.0*
Other myeloid & monocytic	-2.3	-2.8*	-2.0	2.0*	1.8*	2.0
Other leukemia:	-5.2*	-5.2*	-5.3*	-3.4*	-3.3*	-3.7*
Other acute leukemia	-2.3*	-3.3*	-1.6	-5.7*	-5.7*	-6.0*
Aleukemic, subleukemic & NOS	-7.1*	-6.7*	-7.8*	-2.1*	-2.0*	-2.4*
Kaposi Sarcoma[e]	-3.0*	-3.1*	-3.2*	-	-	-
Mesothelioma[e]	-2.5*	-3.2*	-0.7	-	-	-
Ill-defined & unspecified	-3.2*	-3.1*	-3.3*	-1.7*	-1.8*	-1.6*

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, 2007-2016

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	-1.3*	-2.3*	-0.4*	-1.4*	-1.6*	-1.3*
Oral Cavity & Pharynx:	0.8*	0.9*	0.3	0.8*	1.0*	-0.1
Lip	-0.4	-1.1	0.9	-0.7	-2.3	2.4
Tongue	1.7*	1.8*	1.2*	1.4*	1.9*	0.3
Salivary gland	-0.1	-0.2	-0.2	1.8*	2.1*	0.9
Floor of mouth	-3.1*	-3.8*	-1.7	-4.5*	-2.8	-8.0*
Gum & other oral cavity	-0.1	0.0	-0.2	0.7	1.1	0.1
Nasopharynx	-2.9*	-2.7*	-3.1*	-1.8*	-1.5*	-2.3
Tonsil	2.6*	2.8*	1.5*	2.9*	2.9*	2.6*
Oropharynx	3.2*	3.5*	2.0*	3.8*	4.3*	2.2*
Hypopharynx	-2.6*	-2.5*	-3.9*	0.2	0.5	-1.5
Other oral cavity & pharynx	4.0*	4.4*	1.9	-2.1*	-2.1*	-2.8*
Digestive System:	-1.1*	-1.3*	-1.0*	-0.5*	-0.6*	-0.6*
Esophagus	-1.2*	-1.5*	-0.7	-0.4*	-0.6*	-0.8*
Stomach	-0.8*	-1.4*	0.0	-2.0*	-2.4*	-1.6*
Small intestine	1.3*	1.0*	1.7*	1.4*	1.4*	1.5
Colon & Rectum:	-2.6*	-2.9*	-2.4*	-2.2*	-2.3*	-2.2*
Colon	-2.9*	-3.2*	-2.6*	-	-	-
Rectum	-1.9*	-2.0*	-1.8*	-	-	-
Anus, anal canal & anorectum	1.6*	0.5	2.4*	3.2*	3.4*	3.2*
Liver & intrahepatic bile duct	2.2*	1.9*	3.0*	2.6*	2.4*	2.8*
Gallbladder	-0.5	0.5	-0.8*	-1.2*	-1.4	-1.0*
Other biliary	-0.3	-0.4	-0.4	0.0	0.0	-0.1
Pancreas	0.4*	0.4	0.4*	0.2*	0.2*	0.1
Retroperitoneum	-0.6	-0.8	-0.4	0.6	0.3	0.7
Peritoneum, omentum & mesentery	-5.1*	-3.5	-5.1*	0.5	3.3*	0.1
Other digestive system	5.9*	5.8*	5.8*	3.2*	2.5*	3.6*
Respiratory System:	-2.3*	-3.0*	-1.6*	-2.8*	-3.3*	-2.2*
Nose, nasal cavity & middle ear	-0.7	-1.0	-0.5	-1.7	-1.2	-2.9*
Larynx	-2.7*	-2.9*	-2.7*	-1.6*	-1.8*	-1.9*
Lung & bronchus	-2.3*	-3.0*	-1.6*	-2.8*	-3.4*	-2.2*
Pleura	-3.4	-4.4	-	2.9*	2.4	3.7*
Trachea & other respiratory organs	-1.5*	-0.9	-2.9*	0.0	-0.2	0.0
Bones & joints	0.3	0.4	0.2	0.6	0.7	0.2
Soft tissue (including heart)	0.1	0.2	-0.1	0.3	0.4	0.1
Skin (excl. basal & squamous):	1.3*	1.2*	1.2*	-0.6	-0.5	-1.1*
Melanoma of the skin	1.3*	1.2*	1.3*	-1.7*	-1.7*	-1.7*
Other non-epithelial skin	0.7	0.9	0.0	2.6*	2.8*	1.4*
Breast	-0.2	0.0	-0.1	-1.7*	-0.9	-1.5*
Breast (*in situ*)	-1.6*	-2.2	-1.5*	-	-	-

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, 2007-2016

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	-0.7*	-	-0.5*
Cervix uteri	-1.1*	-	-1.0*	-0.1	-	0.1
Corpus uteri	0.6*	-	0.8*	2.2*	-	2.5*
Uterus, NOS	3.1*	-	3.4*	1.0	-	1.4*
Ovary[c]	-2.3*	-	-2.1*	-2.5*	-	-2.3*
Vagina	-1.3	-	-1.1	-1.4	-	-1.1
Vulva	0.5	-	0.7*	1.5*	-	1.8*
Other female genital system	8.1*	-	8.1*	6.7*	-	7.0*
Male Genital System:	-5.6*	-5.8*	-	-1.7*	-2.4*	-
Prostate	-6.0*	-6.2*	-	-1.8*	-2.5*	-
Testis	0.4*	0.3	-	1.1	1.0	-
Penis	-0.1	-0.4	-	2.3*	1.9*	-
Other male genital system	0.1	-0.4	-	5.7*	4.9*	-
Urinary System:	-0.7*	-1.0*	-0.7*	-0.4*	-0.4*	-0.9*
Urinary bladder	-1.5*	-1.7*	-1.6*	0.0	-0.2	-0.4
Kidney & renal pelvis	0.3	0.3	0.1	-0.8*	-0.7*	-1.4*
Ureter	-1.7*	-1.7*	-2.1	0.1	0.2	0.0
Other urinary system	1.8	1.0	3.3*	0.2	0.2	-0.2
Eye & Orbit	-0.2	-0.2	-0.3	1.7*	2.3*	1.2
Brain & Nervous System:[d]	-0.8*	-0.9*	-0.8	0.7*	0.7*	0.6*
Brain	-0.8*	-1.0*	-0.6	-	-	-
Cranial nerves & other nervous system	-1.0	0.9	-2.8*	-	-	-
Endocrine System:	1.7*	1.9*	1.6*	0.1	0.5*	-0.4
Thyroid	1.8*	2.3*	1.7*	0.5	0.9*	0.1
Other endocrine & thymus	-0.9	-1.0	-0.7	-0.5	0.0	-1.2*
Lymphoma:	-0.9*	-0.9*	-1.0*	-2.3*	-2.1*	-2.7*
Hodgkin lymphoma	-1.9*	-1.8*	-1.9*	-4.0*	-3.3*	-4.9*
Non-Hodgkin lymphoma	-0.8*	-0.8*	-0.9*	-2.2*	-2.0*	-2.6*
Myeloma	0.8*	0.7	0.8	-0.4	-0.5*	-0.5
Leukemia:	-0.1	-0.2	-0.2	-1.3*	-1.4*	-1.3*
Lymphocytic:	-0.8	-0.8	-1.0	-1.9*	-1.9*	-2.0*
Acute lymphocytic	0.4	0.8*	-0.3	-0.7*	-0.4	-1.5*
Chronic lymphocytic	-1.1*	-1.1*	-1.2	-2.3*	-2.4*	-2.4*
Other lymphocytic	-1.7*	-1.6*	-2.0	-1.1*	-1.6*	-0.1
Myeloid & Monocytic:	1.2*	1.1	1.1	-0.1	-0.3	0.0
Acute myeloid	1.6*	1.7*	1.3	-0.2	-0.4*	0.0
Chronic myeloid	1.3*	1.0	1.6*	-0.2	-0.3	-0.3
Acute monocytic	-5.5*	-6.2*	-4.8*	-3.1*	-2.9	-3.8*
Other myeloid & monocytic	-2.8*	-3.4*	-2.6	2.0*	1.7*	2.2
Other leukemia:	-5.3*	-5.2*	-5.7*	-3.2*	-3.2*	-3.6*
Other acute leukemia	-2.5*	-3.2*	-2.1	-5.6*	-5.6*	-5.7*
Aleukemic, subleukemic & NOS	-7.3*	-6.9*	-8.2*	-1.9*	-1.8	-2.3*
Kaposi Sarcoma[e]	-4.5*	-4.7*	-4.1	-	-	-
Mesothelioma[e]	-2.4*	-3.3*	-0.3	-	-	-
Ill-defined & unspecified	-3.2*	-3.0*	-3.3*	-1.5*	-1.6*	-1.5*

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, 2007-2016

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	-1.7*	-3.0*	-0.4*	-2.1*	-2.8*	-1.6*
Oral Cavity & Pharynx:	-1.7*	-1.8*	-1.4*	-1.9*	-2.1*	-1.5
Lip	-	-	-	-	-	-
Tongue	-1.5*	-1.8	-1.3	-2.0*	-2.1*	-2.4
Salivary gland	0.5	-0.4	1.0	2.3	0.6	4.1
Floor of mouth	-3.7	-4.0*	-3.1	-	-	-
Gum & other oral cavity	-2.2*	-2.2	-2.3*	-1.7	-2.6*	0.0
Nasopharynx	-0.9	-1.1	-0.8	-1.6	-1.0	-3.4
Tonsil	-0.5	-0.3	-0.7	-2.7*	-2.6	-2.2
Oropharynx	-2.1	-1.5	-3.6	-0.2	-0.6	0.1
Hypopharynx	-4.1*	-4.9*	-0.7	1.2	3.1*	-
Other oral cavity & pharynx	-3.1	-1.2	-	-4.2*	-4.6*	-3.5
Digestive System:	-1.7*	-1.9*	-1.6*	-1.5*	-1.7*	-1.5*
Esophagus	-4.4*	-4.8*	-3.7*	-4.7*	-5.3*	-3.8*
Stomach	-2.2*	-2.7*	-1.9*	-3.1*	-3.1*	-3.6*
Small intestine	1.9*	1.2	2.7*	0.8	0.9	1.0
Colon & Rectum:	-3.1*	-3.1*	-3.2*	-2.9*	-2.9*	-3.1*
Colon	-3.4*	-3.5*	-3.4*	-	-	-
Rectum	-2.2*	-1.9*	-2.5*	-	-	-
Anus, anal canal & anorectum	1.1	0.1	2.0	2.2*	1.8	3.2*
Liver & intrahepatic bile duct	1.2*	0.9	1.8*	1.9*	1.5*	2.6*
Gallbladder	1.7*	0.9	1.9*	0.8	-0.3	1.1
Other biliary	0.0	-0.1	0.0	1.7	1.4	2.1
Pancreas	-0.1	-0.2	0.0	-0.5*	-0.4	-0.5*
Retroperitoneum	0.0	1.9	-1.0	5.4	-	-
Peritoneum, omentum & mesentery	-0.5	-	0.1	4.5*	-	5.6*
Other digestive system	4.3*	2.2	5.9*	2.4	2.4	2.5
Respiratory System:	-2.6*	-3.3*	-1.9*	-3.3*	-4.0*	-2.5*
Nose, nasal cavity & middle ear	-0.9	-1.6	0.3	-3.8	-4.5	-2.3
Larynx	-2.9*	-2.9*	-3.7*	-3.6*	-3.8*	-3.2*
Lung & bronchus	-2.6*	-3.4*	-1.8*	-3.3*	-4.0*	-2.5*
Pleura	-	-	-	-	-	-
Trachea & other respiratory organs	0.7	-0.7	-	3.8	-	-
Bones & joints	-1.4	-0.9	-1.9	0.6	0.1	1.6
Soft tissue (including heart)	0.7	1.4	0.2	0.6	0.2	1.0*
Skin (excl. basal & squamous):	-1.7	-1.0	-2.2	-2.6*	-2.2*	-3.2
Melanoma of the skin	-2.3*	-0.6	-3.4*	-3.7*	-2.4	-4.9*
Other non-epithelial skin	-1.2	-1.1	-1.0	-1.8	-2.2	-0.7
Breast	0.2	1.5	0.4	-1.7*	-0.2	-1.6*
Breast (*in situ*)	1.0*	-1.4	1.1*	-	-	-

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, 2007-2016

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:	0.1	-	0.4	-0.4	-	-0.2
Cervix uteri	-3.1*	-	-2.9*	-3.3*	-	-3.1*
Corpus uteri	1.5*	-	1.8*	2.1*	-	2.4*
Uterus, NOS	3.3*	-	3.6*	1.8*	-	2.1*
Ovary[c]	-1.7*	-	-1.4*	-1.8*	-	-1.6*
Vagina	-0.6	-	-0.5	-1.8	-	-1.5
Vulva	0.8	-	1.0	-1.1	-	-0.8
Other female genital system	7.9*	-	8.0*	5.3*	-	5.5*
Male Genital System:	-4.8*	-5.2*	-	-3.5*	-4.2*	-
Prostate	-4.9*	-5.3*	-	-3.5*	-4.2*	-
Testis	2.0*	1.9*	-	0.4	0.8	-
Penis	-0.5	-1.3	-	-3.5	-3.8	-
Other male genital system	-	-	-	-	-	-
Urinary System:	-0.1	-0.4	0.1	-1.0*	-0.4	-2.0*
Urinary bladder	-0.7	-1.2*	-0.3	-0.6	-0.1	-1.4*
Kidney & renal pelvis	0.4	0.4	0.3	-1.5*	-0.9	-2.5*
Ureter	-4.9*	-6.8*	-	-2.9	-	-
Other urinary system	2.5	-0.2	5.2	0.0	-	-2.1
Eye & Orbit	-1.9	-3.8	-0.4	-	-	-
Brain & Nervous System:[d]	-1.1	-0.7	-1.8*	1.0	1.2	0.6
Brain	-1.1	-0.9	-1.7	-	-	-
Cranial nerves & other nervous system	-1.1	1.3	-2.5	-	-	-
Endocrine System:	2.6*	1.1	3.0*	-0.3	-0.4	-0.3
Thyroid	3.0*	1.7	3.3*	0.1	0.1	-0.1
Other endocrine & thymus	-0.8	-1.1	-0.7	-0.8	-1.0	-0.8
Lymphoma:	-0.4	-0.6	-0.1	-1.8*	-2.0*	-1.5*
Hodgkin lymphoma	-1.0	-1.5	-0.3	-4.2*	-3.5	-4.5*
Non-Hodgkin lymphoma	-0.3	-0.5	0.0	-1.6*	-1.9*	-1.3*
Myeloma	0.7	0.2	0.9	-0.5	-0.8*	-0.3
Leukemia:	0.9	0.7	1.1*	-1.8*	-2.2*	-1.6*
Lymphocytic:	0.3	-0.5	1.2	-3.2*	-4.1*	-2.0*
Acute lymphocytic	0.0	-1.4	2.4	0.2	-1.3	2.6*
Chronic lymphocytic	0.6	0.2	0.7	-4.2*	-4.8*	-3.7*
Other lymphocytic	-2.5	-6.2	-	-0.6	-	-
Myeloid & Monocytic:	2.0*	2.6*	1.4*	0.2	0.2	0.0
Acute myeloid	2.3*	2.9*	1.7	0.2	0.4	0.1
Chronic myeloid	1.6	2.1	0.8	-2.0	-2.9	-1.7
Acute monocytic	1.3	-	-	-	-	-
Other myeloid & monocytic	1.9	-	-	3.6	3.8*	3.0
Other leukemia:	-4.0*	-4.9*	-3.0	-3.9*	-4.1*	-4.0*
Other acute leukemia	1.5	-	-	-6.5*	-6.6*	-6.8*
Aleukemic, subleukemic & NOS	-7.0*	-7.1*	-6.9*	-2.8*	-3.0*	-2.9*
Kaposi Sarcoma[e]	-2.3*	-2.1	-4.6	-	-	-
Mesothelioma[e]	-0.4	-0.3	0.1	-	-	-
Ill-defined & unspecified	-3.2*	-3.1*	-3.2*	-2.6*	-3.0*	-2.3*

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 1.10

Age Distribution (%) of Incidence Cases by Site, 2012-2016

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	4.9	12.9	24.4	27.6	18.3	8.1	100.0%	2,876,963
Oral Cavity & Pharynx:	0.4	1.9	4.3	16.8	30.9	25.4	14.0	6.3	100.0%	75,483
Lip	0.1	1.3	3.3	12.9	22.0	24.7	22.1	13.7	100.0%	4,076
Tongue	0.1	1.7	3.8	16.3	33.6	26.9	13.0	4.6	100.0%	23,285
Salivary gland	1.8	6.1	6.8	12.8	18.9	23.5	18.4	11.7	100.0%	8,345
Floor of mouth	0.2	0.3	2.2	17.2	34.2	26.9	14.2	4.8	100.0%	3,240
Gum & other oral cavity	0.6	1.9	3.7	11.3	23.3	26.0	20.6	12.7	100.0%	10,065
Nasopharynx	2.1	5.8	12.3	22.7	27.7	18.5	8.4	2.5	100.0%	4,025
Tonsil	0.0	0.3	4.0	24.3	39.9	22.6	7.2	1.6	100.0%	13,644
Oropharynx	0.1	0.4	2.4	17.0	35.7	29.1	11.5	3.7	100.0%	3,174
Hypopharynx	0.0	0.3	1.0	13.5	33.2	30.6	16.6	4.7	100.0%	3,844
Other oral cavity & pharynx	0.2	0.6	2.4	15.0	32.3	27.7	14.6	7.3	100.0%	1,785
Digestive System:	0.3	1.3	3.5	12.7	24.2	26.4	20.8	11.0	100.0%	530,255
Esophagus	0.0	0.4	1.8	9.8	26.9	31.4	20.7	8.9	100.0%	28,434
Stomach	0.1	1.6	4.3	11.7	21.7	26.5	22.5	11.5	100.0%	47,636
Small intestine	0.1	1.7	4.9	14.4	24.7	27.9	19.0	7.2	100.0%	15,387
Colon & Rectum:	0.2	1.7	4.4	15.0	22.2	24.4	20.4	11.7	100.0%	250,162
Colon	0.3	1.6	3.8	12.7	20.2	25.0	22.8	13.6	100.0%	175,113
Rectum	0.0	1.9	5.8	20.6	26.8	22.8	15.0	7.1	100.0%	75,049
Colon & Rectum (Male)	0.2	1.6	4.3	15.7	24.6	25.9	19.1	8.6	100.0%	130,031
Colon & Rectum (Female)	0.3	1.8	4.5	14.3	19.6	22.7	21.9	15.0	100.0%	120,131
Anus, anal canal & anorectum	0.0	1.2	4.9	20.4	31.1	23.2	13.1	6.1	100.0%	12,736
Liver & intrahepatic bile duct	0.8	0.7	1.7	10.7	36.4	27.6	16.0	6.0	100.0%	60,650
Gallbladder	0.0	0.5	2.2	8.5	20.6	28.0	26.3	13.9	100.0%	7,934
Other biliary	0.0	0.6	2.2	8.3	20.2	28.3	26.3	14.0	100.0%	12,217
Pancreas	0.1	0.6	1.8	8.4	22.0	29.2	24.4	13.5	100.0%	84,630
Retroperitoneum	8.4	4.5	5.4	15.8	22.4	24.3	14.4	4.7	100.0%	2,443
Peritoneum, omentum & mesentery	0.4	1.0	2.0	10.1	23.8	33.9	21.0	7.7	100.0%	3,280
Other digestive system	0.1	0.8	2.6	8.6	20.9	26.3	25.2	15.4	100.0%	4,746
Respiratory System:	0.1	0.3	1.1	7.5	22.2	33.4	26.0	9.4	100.0%	382,965
Nose, nasal cavity & middle ear	1.7	3.5	6.8	14.4	23.3	23.7	17.2	9.4	100.0%	4,425
Larynx	0.0	0.4	1.9	13.3	31.2	30.5	17.1	5.6	100.0%	19,953
Lung & bronchus	0.0	0.2	1.0	7.0	21.7	33.7	26.7	9.6	100.0%	357,295
Lung & bronchus (Male)	0.0	0.2	0.9	6.7	22.6	34.4	26.4	8.8	100.0%	181,992
Lung & bronchus (Female)	0.0	0.2	1.1	7.4	20.8	32.9	27.0	10.5	100.0%	175,303
Pleura	2.6	2.1	2.1	6.3	16.4	24.9	28.0	17.5	100.0%	189
Trachea & other respiratory organs	16.0	19.6	8.4	10.8	14.0	14.3	11.8	5.2	100.0%	1,103
Bones & joints	26.6	15.0	9.1	12.2	13.8	11.8	7.7	3.7	100.0%	5,749
Soft tissue (including heart)	7.9	9.1	8.3	13.7	19.3	18.9	14.9	7.9	100.0%	21,612
Skin (excl. basal & squamous):	0.5	5.3	7.1	13.9	21.8	24.0	18.0	9.4	100.0%	155,443
Melanoma of the skin	0.4	5.4	7.3	14.4	22.5	24.1	17.4	8.6	100.0%	142,610
Other non-epithelial skin	1.2	4.9	5.3	8.3	14.9	22.8	25.1	17.6	100.0%	12,833
Breast (Female)	0.0	1.9	8.4	20.1	25.6	24.8	13.7	5.6	100.0%	437,722
Breast (Female -*in situ*)	0.0	0.8	9.7	26.9	27.6	23.7	9.6	1.8	100.0%	112,119

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, 2012-2016

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	3.7	7.6	16.8	29.0	24.5	12.6	5.5	100.0%	177,691
Cervix uteri	0.1	13.4	23.0	22.9	19.7	11.9	6.3	2.7	100.0%	22,610
Corpus uteri	0.0	1.5	5.0	15.6	34.5	28.2	11.5	3.6	100.0%	95,900
Uterus, NOS	0.2	1.9	5.4	14.7	23.4	23.7	17.3	13.4	100.0%	3,009
Ovary[a]	1.3	4.0	6.7	17.5	24.7	22.6	15.3	7.9	100.0%	39,543
Vagina	0.9	1.3	4.7	12.9	21.6	26.4	20.2	12.1	100.0%	2,382
Vulva	0.1	1.5	5.0	13.9	19.8	22.4	21.9	15.4	100.0%	8,934
Other female genital system	0.5	3.6	3.4	12.7	25.4	28.7	17.9	7.9	100.0%	5,313
Male Genital System:	0.3	2.3	1.5	8.9	31.3	37.4	14.3	3.9	100.0%	365,266
Prostate	0.0	0.0	0.5	8.7	32.7	39.2	14.9	4.0	100.0%	345,138
Testis	5.3	50.4	23.1	13.1	5.6	1.7	0.6	0.2	100.0%	16,789
Penis	0.0	1.8	4.8	11.6	19.7	27.1	23.9	11.2	100.0%	2,559
Other male genital system	1.4	3.3	3.5	11.5	22.6	29.6	19.6	8.5	100.0%	780
Urinary System:	0.5	1.1	3.3	10.0	21.8	29.1	23.2	11.0	100.0%	240,807
Urinary bladder	0.1	0.4	1.3	6.0	18.1	30.2	28.7	15.1	100.0%	130,091
Kidney & renal pelvis	1.1	1.9	5.9	15.4	26.7	27.7	15.9	5.6	100.0%	104,821
Ureter	0.1	0.1	0.4	4.0	14.4	29.9	34.9	16.2	100.0%	3,376
Other urinary system	0.1	0.4	1.3	6.3	16.7	27.5	28.3	19.4	100.0%	2,519
Eye & Orbit	10.8	3.8	6.0	12.7	22.7	23.4	14.7	5.9	100.0%	5,560
Brain & Nervous System:	12.2	8.9	7.6	13.0	20.4	19.8	13.0	5.1	100.0%	39,632
Brain	11.2	8.8	7.4	12.9	20.8	20.3	13.4	5.2	100.0%	37,213
Cranial nerves & other nervous system	27.7	10.6	10.3	14.1	14.7	11.8	6.7	4.1	100.0%	2,419
Endocrine System:	2.7	15.3	17.9	22.2	21.1	14.0	5.5	1.3	100.0%	101,150
Thyroid	1.8	15.8	18.4	22.6	21.1	13.8	5.3	1.2	100.0%	96,253
Other endocrine & thymus	19.6	6.6	8.0	13.1	21.0	18.0	10.5	3.1	100.0%	4,897
Lymphoma:	2.8	6.8	6.1	11.9	20.3	24.1	19.3	8.7	100.0%	141,683
Hodgkin lymphoma	12.0	31.5	13.7	12.7	12.1	9.7	6.2	2.1	100.0%	15,829
Non-Hodgkin lymphoma	1.7	3.6	5.1	11.8	21.3	26.0	20.9	9.6	100.0%	125,854
Myeloma	0.0	0.5	2.7	10.6	23.2	30.2	23.5	9.4	100.0%	45,190
Leukemia:	7.9	4.5	4.5	9.6	18.1	23.9	20.5	11.1	100.0%	88,755
Lymphocytic:	11.9	2.7	3.0	9.0	19.4	24.5	19.1	10.4	100.0%	44,756
Acute lymphocytic	54.2	10.9	6.0	7.3	8.9	6.9	4.1	1.8	100.0%	9,739
Chronic lymphocytic	0.0	0.3	1.6	8.8	22.3	30.0	23.9	13.0	100.0%	32,445
Other lymphocytic	1.0	2.0	9.4	17.9	22.8	22.0	15.2	9.6	100.0%	2,572
Myeloid & Monocytic:	3.8	6.4	6.1	10.4	17.1	23.9	21.7	10.7	100.0%	40,818
Acute myeloid	4.5	5.7	5.3	9.1	16.8	25.1	22.7	11.0	100.0%	26,824
Chronic myeloid	2.0	7.9	8.1	13.5	18.0	21.5	19.4	9.6	100.0%	11,858
Acute monocytic	5.7	5.1	6.5	10.0	17.3	22.7	22.3	10.5	100.0%	1,202
Other myeloid & monocytic	3.4	6.6	5.1	8.5	14.9	22.1	23.3	16.1	100.0%	934
Other leukemia:	5.2	4.9	4.5	7.8	11.3	17.0	23.3	26.0	100.0%	3,181
Other acute leukemia	7.6	5.9	3.7	6.7	11.2	18.4	24.6	21.9	100.0%	1,413
Aleukemic, subleukemic & NOS	3.4	4.1	5.1	8.7	11.3	15.8	22.3	29.2	100.0%	1,768
Kaposi Sarcoma	0.2	22.3	17.4	20.9	12.1	9.6	10.0	7.5	100.0%	3,080
Mesothelioma	0.0	1.0	1.9	5.4	14.1	28.6	32.6	16.4	100.0%	5,736
Ill-defined & unspecified	0.4	0.9	2.0	7.4	18.3	24.0	25.7	21.4	100.0%	49,525

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], 2012-2016
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	66.0	67.0	66.0	63.0	63.0	62.0
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	71.0	69.0	69.0	71.0	60.0	60.0	-
Tongue	63.0	63.0	64.0	63.0	63.0	64.0	61.0	61.0	60.0
Salivary gland	66.0	68.0	63.0	68.0	70.0	65.0	57.0	58.0	56.0
Floor of mouth	63.0	62.0	66.0	64.0	63.0	66.0	61.0	61.0	61.0
Gum & other oral cavity	68.0	66.0	71.5	69.0	67.0	73.0	62.0	61.0	64.0
Nasopharynx	57.0	57.0	57.0	60.0	60.0	60.5	55.0	56.0	54.0
Tonsil	60.0	59.0	62.0	59.0	59.0	62.0	59.0	59.0	59.0
Oropharynx	63.0	63.0	64.0	63.0	63.0	65.0	61.0	62.0	60.0
Hypopharynx	65.0	65.0	65.0	65.0	65.0	67.0	61.0	62.0	59.5
Other oral cavity & pharynx	64.0	64.0	68.0	65.0	64.0	69.0	62.0	62.0	62.0
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	71.0	68.0	67.0	71.0	65.0	64.0	65.0
Stomach	68.0	68.0	69.0	69.0	68.0	70.0	66.0	66.0	68.0
Small intestine	66.0	66.0	66.0	66.0	66.0	67.0	64.0	63.0	64.0
Colon & Rectum:	67.0	66.0	69.0	68.0	67.0	70.0	64.0	63.0	64.0
Colon	69.0	67.0	71.0	70.0	68.0	72.0	65.0	64.0	65.0
Rectum	63.0	62.0	63.0	63.0	63.0	64.0	60.0	60.0	60.0
Anus, anal canal & anorectum	62.0	60.0	63.0	63.0	62.0	63.0	56.0	52.0	60.0
Liver & intrahepatic bile duct	64.0	63.0	68.0	65.0	64.0	69.0	62.0	62.0	63.0
Gallbladder	71.0	71.0	71.0	72.0	72.0	72.0	67.0	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	62.0	62.0	62.0	63.0	63.0	63.0	56.0	57.0	56.0
Peritoneum, omentum & mesentery	68.0	66.0	68.0	69.0	67.0	69.0	65.0	59.0	65.0
Other digestive system	71.0	70.0	72.0	72.0	70.0	73.0	66.0	65.5	66.0
Respiratory System:	70.0	70.0	71.0	71.0	70.0	71.0	66.0	66.0	67.0
Nose, nasal cavity & middle ear	65.0	64.0	66.0	66.0	65.0	68.0	59.0	57.0	61.0
Larynx	65.0	66.0	64.0	66.0	66.0	65.0	63.0	64.0	62.0
Lung & bronchus	70.0	70.0	71.0	71.0	71.0	71.0	67.0	66.0	67.0
Pleura	73.0	74.0	72.0	74.0	77.0	73.0	-	-	-
Trachea & other respiratory organs	51.0	44.5	61.0	53.0	46.0	62.0	52.0	50.0	58.0
Bones & joints	44.0	43.0	44.0	46.0	46.0	47.0	31.0	29.5	33.0
Soft tissue (including heart)	60.0	61.0	59.0	62.0	63.0	61.0	53.0	52.0	55.0
Skin (excl. basal & squamous):	65.0	67.0	61.0	65.0	67.0	61.0	58.0	58.0	59.0
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	70.0	73.0	74.0	72.0	52.0	51.0	53.0
Breast	62.0	67.0	62.0	63.0	68.0	63.0	60.0	64.0	60.0
Breast (*in situ*)	59.0	63.0	59.0	59.0	63.0	59.0	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], 2012-2016
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	63.0	-	63.0
Uterus, NOS	66.0	-	66.0	67.0	-	67.0	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	65.0	-	65.0
Vulva	69.0	-	69.0	70.0	-	70.0	59.0	-	59.0
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	-	57.0	57.0	-
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	72.0
Kidney & renal pelvis	64.0	64.0	65.0	65.0	64.0	65.0	62.0	61.0	63.0
Ureter	75.0	74.0	76.0	75.0	75.0	77.0	72.0	70.5	73.0
Other urinary system	74.0	74.0	73.0	75.0	75.0	74.0	67.0	68.0	67.0
Eye & Orbit	62.0	62.0	62.0	63.0	63.0	63.0	39.0	43.0	31.0
Brain & Nervous System:	59.0	58.0	59.0	60.0	59.0	60.0	52.0	51.0	53.0
Brain	59.0	59.0	60.0	60.0	60.0	61.0	52.0	52.0	53.0
Cranial nerves & other nervous system	46.0	43.0	48.0	47.0	43.0	49.0	45.0	45.0	47.0
Endocrine System:	51.0	55.0	50.0	51.0	55.0	50.0	52.0	55.0	52.0
Thyroid	51.0	55.0	50.0	51.0	55.0	50.0	52.0	56.0	52.0
Other endocrine & thymus	56.0	54.0	58.0	57.0	55.0	58.0	53.0	50.0	56.0
Lymphoma:	65.0	65.0	66.0	66.0	66.0	67.0	57.0	56.0	59.0
Hodgkin lymphoma	39.0	41.0	37.0	40.0	42.0	37.0	38.0	39.0	37.0
Non-Hodgkin lymphoma	67.0	66.0	68.0	68.0	67.0	69.0	60.0	58.0	61.0
Myeloma	69.0	68.0	69.0	70.0	69.0	70.0	66.0	65.0	67.0
Leukemia:	67.0	66.0	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	64.0	63.0	64.0
Acute lymphocytic	16.0	17.0	15.0	17.0	17.0	16.0	17.0	17.0	16.5
Chronic lymphocytic	70.0	69.0	71.0	70.0	69.0	72.0	67.0	67.0	68.0
Other lymphocytic	63.0	62.0	67.0	63.0	62.0	68.0	62.5	60.0	66.5
Myeloid & Monocytic:	67.0	67.0	67.0	68.0	68.0	68.0	60.0	61.0	60.0
Acute myeloid	68.0	68.0	68.0	69.0	69.0	69.0	62.0	63.0	61.0
Chronic myeloid	65.0	65.0	65.0	66.0	66.0	66.0	58.0	57.0	59.0
Acute monocytic	67.0	68.0	66.0	68.0	68.0	67.0	65.0	65.0	64.0
Other myeloid & monocytic	70.0	70.0	70.0	71.0	71.0	72.0	63.0	61.5	64.5
Other leukemia:	74.0	71.0	77.0	76.0	73.0	79.0	64.0	63.0	64.0
Other acute leukemia	73.0	70.0	76.0	74.0	71.0	77.0	67.0	67.0	66.0
Aleukemic, subleukemic & NOS	75.0	72.0	78.0	78.0	76.0	81.0	63.0	62.0	63.0
Kaposi Sarcoma	49.0	47.0	77.0	54.0	51.0	80.0	37.0	36.0	44.0
Mesothelioma	74.0	75.0	71.0	75.0	75.0	72.0	69.5	71.0	65.5
Ill-defined & unspecified	73.0	71.0	76.0	74.0	72.0	77.0	68.0	66.0	70.0

[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, 2012-2016

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	7.6	19.4	26.9	26.0	17.0	100.0%	2,953,115
Oral Cavity & Pharynx:	0.1	0.7	2.1	11.4	26.9	26.5	19.6	12.7	100.0%	47,102
Lip	0.3	0.0	1.1	8.3	16.9	19.9	23.8	29.6	100.0%	361
Tongue	0.0	1.2	2.5	11.5	27.5	27.2	19.0	11.2	100.0%	12,024
Salivary gland	0.1	1.0	2.6	7.5	17.1	23.6	24.9	23.3	100.0%	4,728
Floor of mouth	0.0	0.2	0.7	16.0	27.6	24.2	19.4	11.9	100.0%	413
Gum & other oral cavity	0.0	0.4	1.4	8.3	20.9	24.1	22.9	21.9	100.0%	6,710
Nasopharynx	0.5	2.8	5.6	16.0	29.0	23.4	15.7	7.0	100.0%	3,416
Tonsil	0.0	0.1	1.9	16.1	35.3	27.9	13.8	4.9	100.0%	4,684
Oropharynx	0.0	0.4	1.4	12.7	30.3	27.6	18.4	9.1	100.0%	5,031
Hypopharynx	0.0	0.3	1.1	12.3	29.4	29.1	19.0	8.8	100.0%	1,790
Other oral cavity & pharynx	0.0	0.1	0.9	10.5	28.9	29.0	20.2	10.2	100.0%	7,945
Digestive System:	0.0	0.5	1.9	8.5	21.8	26.3	24.4	16.5	100.0%	760,725
Esophagus	0.0	0.3	1.5	8.7	25.1	30.5	22.7	11.3	100.0%	74,943
Stomach	0.0	1.3	3.7	10.0	19.1	23.8	24.9	17.1	100.0%	56,526
Small intestine	0.0	0.7	2.4	8.3	18.9	27.6	26.1	16.0	100.0%	6,949
Colon & Rectum:	0.0	0.8	2.6	9.4	18.8	23.2	24.3	20.9	100.0%	259,662
Colon & Rectum (Male)	0.0	0.8	2.7	10.2	21.3	25.6	23.8	15.5	100.0%	136,380
Colon & Rectum (Female)	0.0	0.7	2.5	8.4	16.0	20.6	24.9	26.8	100.0%	123,282
Anus, anal canal & anorectum	0.0	0.7	4.3	15.5	27.4	24.5	16.8	10.8	100.0%	4,855
Liver & intrahepatic bile duct	0.2	0.5	1.4	8.7	31.1	27.1	20.8	10.2	100.0%	124,031
Gallbladder	0.0	0.2	1.4	6.7	17.5	28.3	28.5	17.4	100.0%	10,832
Other biliary	0.0	0.3	1.3	5.6	17.3	25.8	28.0	21.5	100.0%	8,066
Pancreas	0.0	0.2	1.1	6.7	20.1	28.8	26.8	16.2	100.0%	202,583
Retroperitoneum	0.8	1.5	2.7	9.2	20.0	27.1	24.7	14.0	100.0%	1,168
Peritoneum, omentum & mesentery	0.0	0.4	1.9	6.4	18.7	29.7	28.2	14.7	100.0%	4,689
Other digestive system	0.0	0.6	1.4	6.9	18.0	25.2	26.6	21.2	100.0%	6,421
Respiratory System:	0.0	0.1	0.7	6.3	20.4	31.9	28.0	12.5	100.0%	795,457
Nose, nasal cavity & middle ear	0.4	2.6	3.6	11.7	20.3	25.3	21.5	14.7	100.0%	2,410
Larynx	0.0	0.1	0.8	9.0	27.4	30.7	21.7	10.2	100.0%	18,777
Lung & bronchus	0.0	0.1	0.7	6.2	20.2	32.0	28.2	12.6	100.0%	771,712
Lung & bronchus (Male)	0.0	0.1	0.6	6.1	21.4	33.1	27.6	11.1	100.0%	421,626
Lung & bronchus (Female)	0.0	0.1	0.7	6.4	18.8	30.7	28.9	14.3	100.0%	350,086
Pleura	0.2	0.0	0.9	3.2	12.5	28.2	34.9	20.2	100.0%	1,332
Trachea & other respiratory organs	1.4	3.3	3.3	9.4	22.2	26.0	21.5	12.9	100.0%	1,226
Bones & joints	12.3	13.3	5.3	8.9	13.7	16.9	16.3	13.3	100.0%	7,602
Soft tissue (including heart)	3.5	5.8	5.9	12.1	20.0	22.0	19.2	11.6	100.0%	23,488
Skin (excl. basal & squamous):	0.1	1.5	3.4	9.0	18.2	23.0	24.5	20.4	100.0%	63,405
Melanoma of the skin	0.1	1.9	4.3	10.2	19.4	23.6	23.9	16.6	100.0%	45,042
Other non-epithelial skin	0.0	0.5	1.1	5.9	15.3	21.5	25.9	29.7	100.0%	18,363
Breast (Female)	0.0	0.9	4.7	12.9	21.8	22.9	19.7	17.0	100.0%	206,231

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, 2012-2016

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	1.3	3.6	10.5	21.9	27.1	22.0	13.6	100.0%	151,537
Cervix uteri	0.0	5.3	13.2	22.4	24.3	17.7	10.9	6.2	100.0%	20,769
Corpus uteri	0.0	0.4	1.7	6.7	23.6	32.8	22.7	12.1	100.0%	21,635
Uterus, NOS	0.0	0.5	1.9	7.8	23.1	30.2	22.0	14.5	100.0%	27,157
Ovary	0.1	0.7	2.3	9.6	21.2	27.5	24.5	14.2	100.0%	71,018
Vagina	0.1	0.6	2.2	7.4	15.7	22.4	26.6	25.2	100.0%	2,120
Vulva	0.1	0.5	1.6	6.8	13.7	19.8	27.3	30.2	100.0%	5,470
Other female genital system	0.1	1.1	2.1	8.7	20.5	30.2	23.9	13.5	100.0%	3,368
Male Genital System:	0.0	0.5	0.4	1.8	9.4	22.0	33.1	32.8	100.0%	146,270
Prostate	0.0	0.0	0.1	1.5	9.3	22.2	33.5	33.4	100.0%	142,486
Testis	2.0	34.3	18.1	18.7	11.6	7.7	4.6	3.1	100.0%	1,985
Penis	0.0	1.1	3.6	10.3	17.6	25.9	24.8	16.7	100.0%	1,470
Other male genital system	0.0	0.9	2.1	7.9	12.2	27.4	30.4	19.1	100.0%	329
Urinary System:	0.1	0.3	1.0	5.3	15.7	24.6	28.7	24.2	100.0%	153,617
Urinary bladder	0.0	0.1	0.5	3.2	11.4	21.9	31.9	31.0	100.0%	79,677
Kidney & renal pelvis	0.3	0.6	1.6	7.9	20.9	27.8	24.8	16.2	100.0%	69,631
Ureter	0.0	0.0	0.3	2.2	10.1	23.1	36.1	28.1	100.0%	2,026
Other urinary system	0.0	0.2	1.1	4.2	13.1	24.2	31.1	26.1	100.0%	2,283
Eye & Orbit	2.2	1.9	3.0	9.0	20.3	26.8	22.3	14.4	100.0%	1,607
Brain & Nervous System:	3.5	3.4	5.2	12.4	23.9	25.9	18.2	7.7	100.0%	79,718
Endocrine System:	5.3	2.1	3.4	8.9	18.2	23.9	23.0	15.2	100.0%	14,228
Thyroid	0.1	0.7	1.8	7.3	17.6	26.2	27.4	18.9	100.0%	9,308
Other endocrine & thymus	15.2	4.7	6.4	12.0	19.2	19.4	14.8	8.2	100.0%	4,920
Lymphoma:	0.3	1.7	2.0	5.6	13.9	23.9	30.4	22.2	100.0%	106,727
Hodgkin lymphoma	0.9	9.8	6.6	11.1	15.3	21.1	22.7	12.5	100.0%	5,417
Non-Hodgkin lymphoma	0.3	1.2	1.8	5.3	13.9	24.0	30.8	22.8	100.0%	101,310
Myeloma	0.0	0.1	0.8	5.0	15.3	27.9	32.0	18.9	100.0%	60,231
Leukemia:	2.1	2.6	2.4	5.3	12.5	23.4	29.8	21.8	100.0%	116,556
Lymphocytic:	3.4	3.4	2.3	4.2	10.4	19.1	28.4	28.8	100.0%	31,509
Acute lymphocytic	14.3	14.3	8.5	10.7	14.7	16.4	13.2	7.9	100.0%	7,346
Chronic lymphocytic	0.0	0.0	0.3	2.1	8.9	19.9	33.2	35.5	100.0%	22,147
Other lymphocytic	0.6	1.0	1.4	4.0	10.8	20.6	30.6	31.0	100.0%	2,016
Myeloid & Monocytic:	1.6	2.5	2.7	6.2	14.6	26.7	29.9	15.9	100.0%	59,515
Acute myeloid	1.8	2.5	2.7	6.3	15.2	27.7	29.5	14.2	100.0%	49,539
Chronic myeloid	0.5	2.8	3.6	6.9	11.6	18.2	30.0	26.4	100.0%	5,297
Acute monocytic	2.4	0.6	1.5	5.2	13.7	22.5	30.9	23.2	100.0%	466
Other myeloid & monocytic	0.6	1.1	1.6	4.0	11.3	25.5	34.3	21.6	100.0%	4,213
Other leukemia:	1.9	2.1	1.8	4.5	10.4	21.0	31.3	27.0	100.0%	25,532
Other acute leukemia	1.3	2.3	2.0	4.4	9.6	21.6	32.7	26.1	100.0%	8,413
Aleukemic, subleukemic & NOS	2.2	2.0	1.7	4.6	10.8	20.7	30.7	27.4	100.0%	17,119
Ill-defined & unspecified	0.2	0.7	1.5	6.6	18.0	25.4	26.7	20.8	100.0%	216,353

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], 2012-2016
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	67.0	67.0	68.0
Oral Cavity & Pharynx:	67.0	66.0	72.0	68.0	67.0	73.0	63.0	63.0	64.0
Lip	76.0	72.0	83.0	77.0	73.0	83.0	-	-	-
Tongue	67.0	66.0	71.0	67.0	66.0	72.0	63.0	63.0	63.0
Salivary gland	74.0	74.0	74.0	75.0	75.0	75.0	64.0	64.0	65.0
Floor of mouth	67.0	64.5	73.0	67.0	64.0	73.0	66.0	66.0	-
Gum & other oral cavity	72.0	68.0	80.0	73.0	69.0	81.0	65.0	64.0	68.0
Nasopharynx	63.0	63.0	66.0	66.0	64.0	68.0	60.5	60.0	62.0
Tonsil	64.0	63.0	66.0	64.0	63.0	67.5	62.0	62.0	61.5
Oropharynx	66.0	65.0	71.0	67.0	65.0	72.0	62.0	62.0	62.0
Hypopharynx	67.0	66.0	67.0	67.0	67.0	69.0	63.0	64.0	58.5
Other oral cavity & pharynx	68.0	67.0	71.0	68.0	67.0	72.0	64.0	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	74.0	72.0	71.0	74.0	69.0	67.0	72.0
Small intestine	72.0	71.0	72.0	73.0	72.0	74.0	66.0	66.0	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	65.0	63.0	66.0	66.0	64.0	66.5	60.0	58.0	63.0
Liver & intrahepatic bile duct	67.0	65.0	72.0	68.0	66.0	73.0	63.0	63.0	66.0
Gallbladder	73.0	72.0	74.0	74.0	73.0	74.0	70.0	71.0	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	69.0	66.0	71.0
Retroperitoneum	70.0	70.0	72.0	71.0	70.0	73.5	68.0	69.0	67.0
Peritoneum, omentum & mesentery	72.0	69.0	73.0	72.0	69.0	73.0	69.0	65.0	71.0
Other digestive system	74.0	71.0	77.0	74.0	71.0	78.0	70.0	68.0	74.0
Respiratory System:	72.0	71.0	72.0	72.0	72.0	73.0	68.0	67.0	69.0
Nose, nasal cavity & middle ear	69.0	66.0	73.0	69.0	67.0	74.0	66.0	63.0	72.0
Larynx	68.0	68.0	69.0	69.0	69.0	70.0	66.0	66.0	66.0
Lung & bronchus	72.0	71.0	72.0	72.0	72.0	73.0	68.0	67.0	69.0
Pleura	76.0	76.5	76.0	77.0	77.0	76.0	69.5	68.0	71.5
Trachea & other respiratory organs	69.0	66.0	73.0	69.0	67.0	73.0	64.0	64.0	65.0
Bones & joints	62.0	60.0	65.0	63.0	61.0	67.0	55.0	54.0	55.5
Soft tissue (including heart)	66.0	66.0	65.0	67.0	67.0	67.0	59.0	57.0	60.0
Skin (excl. basal & squamous):	72.0	72.0	73.0	73.0	72.0	74.0	65.0	63.0	68.0
Melanoma of the skin	70.0	70.0	71.0	71.0	70.0	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	64.0
Breast	69.0	70.0	68.0	70.0	71.0	70.0	63.0	66.0	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], 2012-2016
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	69.0	-	69.0	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	68.0	-	68.0
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	-	67.0	67.0	-
Other male genital system	74.0	74.0	-	76.0	76.0	-	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	78.0	81.0	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	79.0	78.0	80.0	72.0	71.0	74.0
Other urinary system	77.0	77.0	78.0	78.0	77.0	79.0	70.0	71.0	69.0
Eye & Orbit	70.0	68.0	71.0	70.0	68.0	71.0	59.0	59.0	63.0
Brain & Nervous System	65.0	64.0	66.0	66.0	65.0	67.0	61.0	60.0	62.0
Endocrine System:	69.0	67.0	71.0	70.0	68.0	72.0	65.0	62.0	67.0
Thyroid	73.0	71.0	75.0	74.0	71.0	76.0	69.5	66.0	71.0
Other endocrine & thymus	61.0	60.0	62.0	62.0	61.0	63.0	58.0	56.0	58.0
Lymphoma:	75.0	74.0	78.0	76.0	74.0	78.0	66.0	64.0	69.0
Hodgkin lymphoma	68.0	66.0	70.0	69.0	68.0	71.0	54.0	53.0	56.0
Non-Hodgkin lymphoma	76.0	74.0	78.0	76.0	75.0	79.0	67.0	65.0	69.0
Myeloma	75.0	74.0	76.0	76.0	75.0	77.0	71.0	70.0	73.0
Leukemia:	75.0	74.0	76.0	76.0	75.0	77.0	68.0	67.0	70.0
Lymphocytic:	77.0	76.0	80.0	78.0	76.0	81.0	70.0	68.0	73.0
Acute lymphocytic	56.0	53.0	59.0	57.0	55.0	61.0	49.0	45.0	53.5
Chronic lymphocytic	81.0	79.0	84.0	81.0	79.0	84.0	75.0	72.0	78.0
Other lymphocytic	79.0	78.0	80.0	79.0	78.0	81.0	72.0	68.5	75.0
Myeloid & Monocytic:	73.0	73.0	73.0	74.0	73.0	74.0	67.0	66.0	67.0
Acute myeloid	72.0	72.0	73.0	73.0	73.0	73.0	66.0	66.0	67.0
Chronic myeloid	77.0	75.0	79.0	78.0	76.0	80.0	66.0	62.0	69.0
Acute monocytic	76.0	76.0	77.0	77.0	76.0	77.0	67.5	67.5	-
Other myeloid & monocytic	76.0	76.0	77.0	77.0	76.0	78.0	70.0	68.0	72.0
Other leukemia:	77.0	76.0	79.0	78.0	77.0	80.0	70.0	68.0	73.0
Other acute leukemia	78.0	76.0	79.0	78.0	77.0	79.0	71.0	68.5	73.0
Aleukemic, subleukemic & NOS	77.0	76.0	79.0	78.0	77.0	80.0	70.0	68.0	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, 2014-2016

Site	All Races	Whites	Blacks
	Percent (95% C.I.)	Percent (95% C.I.)	Percent (95% C.I.)
All Sites	39.30 (39.22, 39.37)	39.52 (39.44, 39.60)	36.16 (35.95, 36.36)
Invasive and In Situ	41.82 (41.74, 41.89)	42.04 (41.96, 42.13)	37.59 (37.38, 37.80)
Oral Cavity and Pharynx	1.17 (1.16, 1.18)	1.23 (1.22, 1.24)	0.79 (0.76, 0.81)
Esophagus	0.51 (0.50, 0.52)	0.54 (0.53, 0.55)	0.39 (0.36, 0.41)
Stomach	0.86 (0.85, 0.87)	0.75 (0.74, 0.76)	1.10 (1.06, 1.14)
Colon and Rectum	4.24 (4.21, 4.26)	4.18 (4.15, 4.20)	4.26 (4.19, 4.34)
Invasive and In Situ	4.38 (4.36, 4.41)	4.31 (4.29, 4.34)	4.43 (4.36, 4.50)
Liver and Intrahepatic Bile Duct	1.02 (1.01, 1.03)	0.92 (0.91, 0.93)	1.10 (1.06, 1.13)
Pancreas	1.63 (1.61, 1.64)	1.63 (1.61, 1.64)	1.67 (1.62, 1.72)
Larynx	0.32 (0.32, 0.33)	0.33 (0.32, 0.33)	0.40 (0.38, 0.42)
Invasive and In Situ	0.34 (0.34, 0.35)	0.35 (0.34, 0.36)	0.42 (0.40, 0.44)
Lung and Bronchus	6.34 (6.31, 6.37)	6.52 (6.49, 6.56)	5.69 (5.61, 5.78)
Melanoma of the Skin	2.25 (2.23, 2.27)	2.64 (2.62, 2.66)	0.10 (0.09, 0.11)
Invasive and In Situ	3.96 (3.93, 3.98)	4.54 (4.51, 4.57)	0.14 (0.13, 0.15)
Breast	6.62 (6.60, 6.65)	6.69 (6.66, 6.72)	6.27 (6.19, 6.35)
Invasive and In Situ	7.86 (7.83, 7.88)	7.88 (7.85, 7.91)	7.55 (7.46, 7.64)
Urinary Bladder (Invasive and In Situ)	2.45 (2.43, 2.47)	2.66 (2.64, 2.68)	1.27 (1.22, 1.31)
Kidney and Renal Pelvis	1.68 (1.67, 1.69)	1.74 (1.72, 1.75)	1.60 (1.56, 1.65)
Brain and Other Nervous System	0.62 (0.61, 0.62)	0.68 (0.67, 0.69)	0.33 (0.31, 0.35)
Thyroid	1.31 (1.30, 1.33)	1.37 (1.36, 1.38)	0.80 (0.78, 0.83)
Hodgkin Lymphoma	0.22 (0.21, 0.22)	0.23 (0.23, 0.24)	0.20 (0.19, 0.21)
Non-Hodgkin Lymphoma	2.17 (2.15, 2.19)	2.27 (2.25, 2.29)	1.38 (1.34, 1.42)
Myeloma	0.82 (0.80, 0.83)	0.75 (0.74, 0.76)	1.39 (1.35, 1.43)
Leukemia	1.56 (1.55, 1.57)	1.64 (1.63, 1.66)	1.07 (1.03, 1.10)
Acute Lymphocytic Leukemia	0.13 (0.13, 0.14)	0.15 (0.14, 0.15)	0.07 (0.07, 0.08)
Chronic Lymphocytic Leukemia	0.61 (0.60, 0.62)	0.65 (0.64, 0.66)	0.35 (0.33, 0.37)
Acute Myeloid Leukemia	0.49 (0.48, 0.50)	0.51 (0.50, 0.52)	0.37 (0.35, 0.39)
Chronic Myeloid Leukemia	0.21 (0.20, 0.21)	0.21 (0.21, 0.22)	0.17 (0.16, 0.19)
Kaposi Sarcoma	0.12 (0.11, 0.12)	0.13 (0.13, 0.13)	0.05 (0.04, 0.06)
Mesothelioma	0.05 (0.04, 0.05)	0.04 (0.03, 0.04)	0.08 (0.07, 0.09)

Devcan Version 6.7.7, April 2019, 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 1.14 - continued

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

Both Sexes, 21 SEER Areas, 2014-2016

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	33.92 (33.64, 34.20)	27.87 (26.88, 28.94)	36.25 (36.01, 36.50)
Invasive and In Situ	35.38 (35.10, 35.67)	28.84 (27.84, 29.91)	37.66 (37.41, 37.91)
Oral Cavity and Pharynx	0.95 (0.91, 0.99)	0.77 (0.64, 1.00)	0.82 (0.78, 0.86)
Esophagus	0.33 (0.30, 0.36)	0.41 (0.31, 0.62)	0.40 (0.37, 0.43)
Stomach	1.64 (1.57, 1.72)	0.95 (0.74, 1.26)	1.36 (1.31, 1.42)
Colon and Rectum	4.33 (4.23, 4.44)	4.27 (3.90, 4.73)	4.21 (4.12, 4.30)
Invasive and In Situ	4.48 (4.37, 4.59)	4.33 (3.95, 4.79)	4.37 (4.28, 4.46)
Liver and Intrahepatic Bile Duct	1.84 (1.77, 1.91)	1.59 (1.40, 1.87)	1.75 (1.70, 1.81)
Pancreas	1.61 (1.54, 1.68)	1.33 (1.10, 1.66)	1.67 (1.61, 1.73)
Larynx	0.13 (0.12, 0.16)	0.24 (0.17, 0.44)	0.27 (0.25, 0.29)
Invasive and In Situ	0.14 (0.12, 0.16)	0.27 (0.19, 0.48)	0.29 (0.27, 0.31)
Lung and Bronchus	5.41 (5.29, 5.53)	4.47 (4.04, 4.99)	4.03 (3.94, 4.12)
Melanoma of the Skin	0.18 (0.16, 0.20)	0.57 (0.45, 0.80)	0.57 (0.54, 0.60)
Invasive and In Situ	0.24 (0.21, 0.27)	0.89 (0.74, 1.15)	0.90 (0.86, 0.94)
Breast	5.77 (5.67, 5.87)	4.18 (3.81, 4.63)	5.53 (5.44, 5.61)
Invasive and In Situ	7.18 (7.08, 7.29)	4.85 (4.47, 5.32)	6.56 (6.47, 6.65)
Urinary Bladder (Invasive and In Situ)	1.48 (1.41, 1.55)	1.21 (1.00, 1.53)	1.60 (1.55, 1.66)
Kidney and Renal Pelvis	1.08 (1.04, 1.14)	1.60 (1.41, 1.88)	1.81 (1.76, 1.86)
Brain and Other Nervous System	0.41 (0.38, 0.44)	0.31 (0.19, 0.55)	0.53 (0.51, 0.56)
Thyroid	1.39 (1.35, 1.44)	0.76 (0.65, 0.98)	1.25 (1.22, 1.29)
Hodgkin Lymphoma	0.11 (0.10, 0.13)	0.12 (0.07, 0.31)	0.23 (0.21, 0.25)
Non-Hodgkin Lymphoma	1.83 (1.77, 1.90)	1.16 (0.99, 1.44)	2.22 (2.16, 2.29)
Myeloma	0.55 (0.51, 0.58)	0.57 (0.45, 0.81)	0.86 (0.82, 0.89)
Leukemia	0.99 (0.95, 1.05)	0.85 (0.70, 1.09)	1.24 (1.20, 1.29)
Acute Lymphocytic Leukemia	0.12 (0.11, 0.14)	0.13 (0.10, 0.31)	0.21 (0.19, 0.22)
Chronic Lymphocytic Leukemia	0.16 (0.15, 0.19)	0.24 (0.16, 0.44)	0.30 (0.28, 0.33)
Acute Myeloid Leukemia	0.45 (0.42, 0.49)	0.24 (0.16, 0.44)	0.44 (0.42, 0.47)
Chronic Myeloid Leukemia	0.17 (0.15, 0.19)	0.12 (0.08, 0.31)	0.17 (0.16, 0.19)
Kaposi Sarcoma	0.06 (0.05, 0.07)	0.05 (0.02, 0.25)	0.11 (0.09, 0.12)
Mesothelioma	0.02 (0.01, 0.03)	0.07 (0.03, 0.27)	0.08 (0.07, 0.09)

Devcan Version 6.7.7, April 2019, 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, 2014-2016

Site	All Races	Whites	Blacks
	Percent (95% C.I.)	Percent (95% C.I.)	Percent (95% C.I.)
All Sites	40.14 (40.04, 40.25)	39.89 (39.77, 40.00)	38.05 (37.73, 38.36)
Invasive and In Situ	41.83 (41.72, 41.94)	41.61 (41.49, 41.73)	38.44 (38.12, 38.76)
Oral Cavity and Pharynx	1.66 (1.64, 1.68)	1.74 (1.72, 1.77)	1.12 (1.07, 1.18)
Esophagus	0.80 (0.78, 0.81)	0.85 (0.83, 0.86)	0.56 (0.52, 0.60)
Stomach	1.07 (1.05, 1.08)	0.95 (0.93, 0.97)	1.31 (1.25, 1.37)
Colon and Rectum	4.41 (4.38, 4.45)	4.33 (4.29, 4.37)	4.40 (4.29, 4.51)
Invasive and In Situ	4.58 (4.54, 4.61)	4.48 (4.44, 4.52)	4.59 (4.48, 4.70)
Liver and Intrahepatic Bile Duct	1.44 (1.42, 1.46)	1.30 (1.28, 1.32)	1.64 (1.58, 1.70)
Pancreas	1.66 (1.63, 1.68)	1.66 (1.64, 1.69)	1.60 (1.53, 1.67)
Larynx	0.53 (0.52, 0.54)	0.53 (0.52, 0.54)	0.69 (0.65, 0.74)
Invasive and In Situ	0.57 (0.55, 0.58)	0.57 (0.55, 0.58)	0.72 (0.68, 0.77)
Lung and Bronchus	6.70 (6.66, 6.75)	6.73 (6.68, 6.78)	6.59 (6.45, 6.73)
Melanoma of the Skin	2.77 (2.75, 2.80)	3.22 (3.18, 3.25)	0.10 (0.08, 0.12)
Invasive and In Situ	4.82 (4.78, 4.85)	5.46 (5.42, 5.50)	0.14 (0.12, 0.16)
Breast	0.13 (0.13, 0.14)	0.13 (0.13, 0.14)	0.16 (0.14, 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	11.60 (11.54, 11.65)	10.82 (10.76, 10.87)	15.78 (15.59, 15.98)
Testis	0.40 (0.40, 0.41)	0.48 (0.47, 0.49)	0.11 (0.10, 0.13)
Urinary Bladder (Invasive and In Situ)	3.86 (3.83, 3.90)	4.19 (4.15, 4.23)	1.80 (1.72, 1.88)
Kidney and Renal Pelvis	2.16 (2.14, 2.18)	2.23 (2.20, 2.25)	2.02 (1.95, 2.09)
Brain and Other Nervous System	0.69 (0.68, 0.70)	0.76 (0.75, 0.78)	0.36 (0.34, 0.40)
Thyroid	0.70 (0.68, 0.71)	0.74 (0.72, 0.75)	0.33 (0.30, 0.36)
Hodgkin Lymphoma	0.24 (0.23, 0.25)	0.25 (0.24, 0.26)	0.22 (0.20, 0.24)
Non-Hodgkin Lymphoma	2.43 (2.41, 2.46)	2.54 (2.51, 2.57)	1.52 (1.46, 1.59)
Myeloma	0.93 (0.92, 0.95)	0.87 (0.86, 0.89)	1.46 (1.40, 1.53)
Leukemia	1.86 (1.83, 1.88)	1.95 (1.93, 1.98)	1.22 (1.16, 1.29)
Acute Lymphocytic Leukemia	0.15 (0.14, 0.15)	0.16 (0.16, 0.17)	0.08 (0.07, 0.09)
Chronic Lymphocytic Leukemia	0.75 (0.74, 0.77)	0.80 (0.79, 0.82)	0.43 (0.40, 0.47)
Acute Myeloid Leukemia	0.56 (0.55, 0.57)	0.58 (0.57, 0.60)	0.40 (0.36, 0.43)
Chronic Myeloid Leukemia	0.25 (0.24, 0.26)	0.26 (0.25, 0.26)	0.20 (0.18, 0.23)
Kaposi Sarcoma	0.19 (0.18, 0.20)	0.21 (0.20, 0.22)	0.09 (0.07, 0.12)
Mesothelioma	0.08 (0.07, 0.08)	0.06 (0.06, 0.07)	0.15 (0.13, 0.17)

Devcan Version 6.7.7, April 2019, 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, 2014-2016

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	34.32 (33.89, 34.76)	27.02 (25.64, 28.61)	37.12 (36.74, 37.51)
Invasive and In Situ	34.63 (34.20, 35.07)	27.41 (26.02, 29.01)	37.65 (37.27, 38.05)
Oral Cavity and Pharynx	1.27 (1.20, 1.35)	1.04 (0.84, 1.56)	1.12 (1.06, 1.19)
Esophagus	0.54 (0.49, 0.60)	0.58 (0.43, 1.08)	0.64 (0.58, 0.70)
Stomach	2.01 (1.90, 2.13)	1.07 (0.83, 1.62)	1.61 (1.53, 1.70)
Colon and Rectum	4.73 (4.57, 4.90)	4.09 (3.55, 4.88)	4.59 (4.46, 4.73)
Invasive and In Situ	4.91 (4.75, 5.07)	4.16 (3.62, 4.94)	4.76 (4.63, 4.90)
Liver and Intrahepatic Bile Duct	2.54 (2.43, 2.65)	2.17 (1.86, 2.75)	2.39 (2.31, 2.49)
Pancreas	1.63 (1.53, 1.74)	1.60 (1.21, 2.29)	1.65 (1.56, 1.75)
Larynx	0.25 (0.22, 0.29)	0.37 (0.25, 0.86)	0.48 (0.44, 0.53)
Invasive and In Situ	0.26 (0.23, 0.30)	0.44 (0.29, 0.93)	0.52 (0.48, 0.57)
Lung and Bronchus	6.57 (6.37, 6.77)	4.50 (3.88, 5.37)	4.49 (4.35, 4.64)
Melanoma of the Skin	0.19 (0.16, 0.24)	0.62 (0.43, 1.15)	0.59 (0.54, 0.65)
Invasive and In Situ	0.27 (0.23, 0.32)	1.01 (0.76, 1.56)	0.92 (0.86, 1.00)
Breast	0.09 (0.08, 0.13)	0.01 (0.00, 0.52)	0.10 (0.08, 0.13)
Invasive and In Situ	0.10 (0.08, 0.14)	0.01 (0.00, 0.52)	0.10 (0.09, 0.14)
Prostate	7.37 (7.19, 7.56)	5.86 (5.23, 6.73)	10.82 (10.63, 11.03)
Testis	0.17 (0.15, 0.20)	0.39 (0.31, 0.85)	0.37 (0.36, 0.40)
Urinary Bladder (Invasive and In Situ)	2.44 (2.31, 2.58)	1.78 (1.44, 2.40)	2.57 (2.46, 2.70)
Kidney and Renal Pelvis	1.42 (1.34, 1.51)	1.86 (1.58, 2.43)	2.30 (2.21, 2.39)
Brain and Other Nervous System	0.44 (0.40, 0.49)	0.30 (0.19, 0.79)	0.58 (0.54, 0.63)
Thyroid	0.73 (0.68, 0.78)	0.37 (0.26, 0.85)	0.55 (0.52, 0.60)
Hodgkin Lymphoma	0.13 (0.11, 0.16)	0.07 (0.04, 0.57)	0.25 (0.22, 0.28)
Non-Hodgkin Lymphoma	2.13 (2.02, 2.24)	1.04 (0.81, 1.58)	2.38 (2.28, 2.48)
Myeloma	0.67 (0.61, 0.73)	0.59 (0.41, 1.11)	0.96 (0.90, 1.02)
Leukemia	1.19 (1.11, 1.27)	1.10 (0.86, 1.63)	1.41 (1.34, 1.49)
Acute Lymphocytic Leukemia	0.12 (0.11, 0.15)	0.16 (0.11, 0.64)	0.22 (0.21, 0.25)
Chronic Lymphocytic Leukemia	0.22 (0.19, 0.27)	0.36 (0.23, 0.85)	0.35 (0.32, 0.40)
Acute Myeloid Leukemia	0.53 (0.47, 0.59)	0.26 (0.17, 0.75)	0.50 (0.46, 0.55)
Chronic Myeloid Leukemia	0.22 (0.19, 0.26)	0.16 (0.09, 0.65)	0.20 (0.17, 0.24)
Kaposi Sarcoma	0.10 (0.08, 0.13)	0.05 (0.02, 0.55)	0.17 (0.15, 0.21)
Mesothelioma	0.04 (0.03, 0.07)	0.08 (0.02, 0.58)	0.13 (0.11, 0.16)

Devcan Version 6.7.7, April 2019, 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, 2014-2016

Site	All Races	Whites	Blacks
	Percent (95% C.I.)	Percent (95% C.I.)	Percent (95% C.I.)
All Sites	38.70 (38.61, 38.80)	39.40 (39.29, 39.51)	34.66 (34.38, 34.93)
Invasive and In Situ	42.06 (41.96, 42.16)	42.76 (42.65, 42.88)	37.02 (36.74, 37.30)
Oral Cavity and Pharynx	0.71 (0.70, 0.72)	0.73 (0.72, 0.75)	0.49 (0.46, 0.53)
Esophagus	0.24 (0.23, 0.25)	0.25 (0.24, 0.26)	0.24 (0.22, 0.26)
Stomach	0.66 (0.65, 0.68)	0.57 (0.55, 0.58)	0.93 (0.88, 0.98)
Colon and Rectum	4.08 (4.04, 4.11)	4.03 (3.99, 4.07)	4.15 (4.06, 4.25)
Invasive and In Situ	4.21 (4.17, 4.24)	4.15 (4.12, 4.19)	4.31 (4.21, 4.41)
Liver and Intrahepatic Bile Duct	0.62 (0.60, 0.63)	0.55 (0.54, 0.57)	0.62 (0.58, 0.65)
Pancreas	1.60 (1.58, 1.63)	1.59 (1.57, 1.61)	1.73 (1.67, 1.80)
Larynx	0.13 (0.12, 0.13)	0.13 (0.13, 0.14)	0.16 (0.14, 0.18)
Invasive and In Situ	0.14 (0.13, 0.14)	0.14 (0.14, 0.15)	0.17 (0.15, 0.19)
Lung and Bronchus	6.05 (6.01, 6.09)	6.37 (6.32, 6.41)	4.97 (4.87, 5.08)
Melanoma of the Skin	1.79 (1.77, 1.81)	2.13 (2.11, 2.16)	0.10 (0.08, 0.12)
Invasive and In Situ	3.20 (3.17, 3.23)	3.71 (3.68, 3.74)	0.14 (0.12, 0.16)
Breast	12.83 (12.78, 12.89)	13.14 (13.08, 13.20)	11.59 (11.44, 11.74)
Invasive and In Situ	15.25 (15.20, 15.31)	15.50 (15.44, 15.57)	13.99 (13.83, 14.16)
Cervix Uteri	0.63 (0.62, 0.64)	0.61 (0.59, 0.62)	0.75 (0.72, 0.79)
Corpus and Uterus, NOS	3.07 (3.05, 3.10)	3.13 (3.11, 3.16)	2.99 (2.92, 3.07)
Invasive and In Situ	3.09 (3.06, 3.12)	3.15 (3.12, 3.18)	3.02 (2.95, 3.10)
Ovary[a]	1.25 (1.23, 1.27)	1.31 (1.29, 1.33)	0.95 (0.91, 1.00)
Urinary Bladder (Invasive and In Situ)	1.18 (1.16, 1.19)	1.26 (1.24, 1.28)	0.84 (0.79, 0.89)
Kidney and Renal Pelvis	1.23 (1.21, 1.24)	1.26 (1.24, 1.28)	1.25 (1.20, 1.30)
Brain and Other Nervous System	0.55 (0.54, 0.56)	0.60 (0.59, 0.62)	0.31 (0.28, 0.33)
Thyroid	1.93 (1.91, 1.95)	2.02 (2.00, 2.04)	1.23 (1.19, 1.28)
Hodgkin Lymphoma	0.20 (0.19, 0.20)	0.21 (0.20, 0.22)	0.18 (0.16, 0.20)
Non-Hodgkin Lymphoma	1.93 (1.91, 1.96)	2.03 (2.00, 2.05)	1.26 (1.21, 1.32)
Myeloma	0.71 (0.69, 0.72)	0.63 (0.62, 0.64)	1.33 (1.28, 1.39)
Leukemia	1.29 (1.27, 1.31)	1.35 (1.33, 1.37)	0.95 (0.90, 1.00)
Acute Lymphocytic Leukemia	0.12 (0.11, 0.12)	0.13 (0.12, 0.13)	0.07 (0.06, 0.08)
Chronic Lymphocytic Leukemia	0.48 (0.47, 0.49)	0.51 (0.50, 0.53)	0.28 (0.26, 0.31)
Acute Myeloid Leukemia	0.42 (0.41, 0.43)	0.44 (0.43, 0.45)	0.35 (0.32, 0.38)
Chronic Myeloid Leukemia	0.17 (0.16, 0.18)	0.17 (0.17, 0.18)	0.15 (0.14, 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, 0.02)	0.01 (0.01, 0.01)	0.02 (0.01, 0.03)

Devcan Version 6.7.7, April 2019, 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, 2014-2016

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	33.75 (33.38, 34.12)	28.85 (27.45, 30.40)	36.02 (35.69, 36.35)
Invasive and In Situ	36.22 (35.84, 36.60)	30.39 (28.97, 31.96)	38.25 (37.92, 38.59)
Oral Cavity and Pharynx	0.67 (0.62, 0.73)	0.50 (0.35, 0.87)	0.56 (0.51, 0.61)
Esophagus	0.15 (0.13, 0.19)	0.24 (0.14, 0.59)	0.20 (0.17, 0.24)
Stomach	1.34 (1.25, 1.43)	0.82 (0.52, 1.33)	1.16 (1.10, 1.23)
Colon and Rectum	3.99 (3.85, 4.14)	4.46 (3.95, 5.14)	3.90 (3.78, 4.02)
Invasive and In Situ	4.11 (3.97, 4.26)	4.52 (4.00, 5.20)	4.04 (3.93, 4.17)
Liver and Intrahepatic Bile Duct	1.24 (1.16, 1.33)	1.04 (0.82, 1.45)	1.17 (1.11, 1.24)
Pancreas	1.60 (1.51, 1.69)	1.11 (0.85, 1.56)	1.69 (1.61, 1.78)
Larynx	0.04 (0.02, 0.06)	0.12 (0.05, 0.46)	0.08 (0.07, 0.10)
Invasive and In Situ	0.04 (0.03, 0.07)	0.12 (0.05, 0.46)	0.09 (0.07, 0.11)
Lung and Bronchus	4.46 (4.32, 4.62)	4.49 (3.90, 5.24)	3.68 (3.57, 3.80)
Melanoma of the Skin	0.16 (0.14, 0.20)	0.53 (0.39, 0.89)	0.57 (0.53, 0.61)
Invasive and In Situ	0.21 (0.18, 0.25)	0.81 (0.62, 1.19)	0.90 (0.85, 0.95)
Breast	10.68 (10.51, 10.87)	8.17 (7.48, 9.01)	10.50 (10.35, 10.66)
Invasive and In Situ	13.33 (13.13, 13.53)	9.51 (8.79, 10.38)	12.50 (12.34, 12.67)
Cervix Uteri	0.63 (0.59, 0.68)	0.62 (0.48, 0.98)	0.89 (0.84, 0.93)
Corpus and Uterus, NOS	2.34 (2.26, 2.43)	1.84 (1.59, 2.28)	2.78 (2.70, 2.86)
Invasive and In Situ	2.35 (2.27, 2.44)	1.84 (1.59, 2.28)	2.80 (2.72, 2.88)
Ovary[c]	1.08 (1.02, 1.15)	0.77 (0.59, 1.15)	1.23 (1.18, 1.29)
Urinary Bladder (Invasive and In Situ)	0.69 (0.63, 0.76)	0.68 (0.44, 1.14)	0.81 (0.75, 0.87)
Kidney and Renal Pelvis	0.80 (0.74, 0.86)	1.35 (1.11, 1.77)	1.39 (1.33, 1.46)
Brain and Other Nervous System	0.38 (0.34, 0.42)	0.31 (0.14, 0.73)	0.49 (0.46, 0.53)
Thyroid	1.99 (1.92, 2.06)	1.16 (0.98, 1.54)	1.95 (1.90, 2.01)
Hodgkin Lymphoma	0.10 (0.08, 0.12)	0.16 (0.08, 0.50)	0.21 (0.19, 0.24)
Non-Hodgkin Lymphoma	1.59 (1.51, 1.68)	1.28 (1.03, 1.72)	2.10 (2.02, 2.19)
Myeloma	0.45 (0.41, 0.50)	0.56 (0.40, 0.93)	0.78 (0.73, 0.83)
Leukemia	0.83 (0.77, 0.90)	0.61 (0.44, 0.98)	1.10 (1.05, 1.16)
Acute Lymphocytic Leukemia	0.12 (0.10, 0.14)	0.10 (0.06, 0.43)	0.19 (0.17, 0.21)
Chronic Lymphocytic Leukemia	0.12 (0.10, 0.15)	0.12 (0.05, 0.47)	0.26 (0.23, 0.30)
Acute Myeloid Leukemia	0.39 (0.35, 0.44)	0.21 (0.11, 0.56)	0.40 (0.37, 0.44)
Chronic Myeloid Leukemia	0.12 (0.10, 0.15)	0.08 (0.03, 0.42)	0.15 (0.13, 0.18)
Kaposi Sarcoma	0.02 (0.01, 0.05)	0.05 (0.00, 0.41)	0.05 (0.04, 0.07)
Mesothelioma	0.00 (0.00, 0.02)	0.06 (0.01, 0.41)	0.03 (0.02, 0.05)

Devcan Version 6.7.7, April 2019, 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., 2014-2016

Site	All Races	Whites	Blacks
	Percent (95% C.I.)	Percent (95% C.I.)	Percent (95% C.I.)
All Sites	19.71 (19.69, 19.74)	19.85 (19.83, 19.88)	19.71 (19.63, 19.80)
Oral Cavity and Pharynx	0.30 (0.30, 0.30)	0.30 (0.30, 0.31)	0.27 (0.26, 0.28)
Esophagus	0.47 (0.47, 0.47)	0.50 (0.50, 0.51)	0.33 (0.31, 0.34)
Stomach	0.37 (0.37, 0.38)	0.32 (0.32, 0.33)	0.60 (0.58, 0.61)
Colon and Rectum	1.75 (1.74, 1.76)	1.72 (1.71, 1.73)	2.03 (2.00, 2.06)
Liver and Intrahepatic Bile Duct	0.77 (0.77, 0.78)	0.73 (0.72, 0.74)	0.87 (0.85, 0.88)
Pancreas	1.37 (1.36, 1.38)	1.37 (1.36, 1.38)	1.45 (1.43, 1.48)
Larynx	0.12 (0.11, 0.12)	0.11 (0.11, 0.11)	0.16 (0.15, 0.17)
Lung and Bronchus	4.97 (4.95, 4.98)	5.08 (5.07, 5.10)	4.54 (4.49, 4.58)
Melanoma of the Skin	0.29 (0.28, 0.29)	0.33 (0.33, 0.33)	0.04 (0.03, 0.04)
Breast	1.34 (1.33, 1.35)	1.31 (1.30, 1.32)	1.67 (1.65, 1.70)
Urinary Bladder	0.62 (0.61, 0.62)	0.65 (0.64, 0.66)	0.43 (0.41, 0.44)
Kidney and Renal Pelvis	0.46 (0.46, 0.46)	0.47 (0.47, 0.48)	0.39 (0.38, 0.41)
Brain and Other Nervous System	0.47 (0.47, 0.48)	0.52 (0.51, 0.52)	0.26 (0.25, 0.27)
Thyroid	0.06 (0.06, 0.07)	0.06 (0.06, 0.07)	0.06 (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	0.72 (0.71, 0.72)	0.75 (0.75, 0.76)	0.42 (0.41, 0.44)
Myeloma	0.42 (0.42, 0.43)	0.40 (0.39, 0.40)	0.69 (0.67, 0.71)
Leukemia	0.82 (0.81, 0.82)	0.85 (0.85, 0.86)	0.58 (0.56, 0.60)
Acute Lymphocytic Leukemia	0.04 (0.04, 0.04)	0.04 (0.04, 0.05)	0.03 (0.02, 0.03)
Chronic Lymphocytic Leukemia	0.17 (0.17, 0.18)	0.18 (0.18, 0.19)	0.11 (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, 0.03)

Devcan Version 6.7.7, April 2019, 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., 2014-2016

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	17.87 (17.67, 18.07)	15.99 (15.57, 16.43)	17.13 (17.00, 17.25)
Oral Cavity and Pharynx	0.33 (0.30, 0.36)	0.27 (0.21, 0.35)	0.24 (0.22, 0.25)
Esophagus	0.26 (0.24, 0.29)	0.38 (0.32, 0.48)	0.30 (0.29, 0.32)
Stomach	0.99 (0.94, 1.04)	0.52 (0.44, 0.62)	0.73 (0.70, 0.75)
Colon and Rectum	1.81 (1.74, 1.89)	1.65 (1.51, 1.82)	1.73 (1.69, 1.77)
Liver and Intrahepatic Bile Duct	1.49 (1.43, 1.54)	1.09 (0.99, 1.22)	1.30 (1.27, 1.34)
Pancreas	1.43 (1.37, 1.50)	1.01 (0.90, 1.15)	1.29 (1.26, 1.33)
Larynx	0.06 (0.04, 0.07)	0.09 (0.06, 0.15)	0.10 (0.09, 0.11)
Lung and Bronchus	4.06 (3.96, 4.16)	3.67 (3.46, 3.89)	2.77 (2.72, 2.83)
Melanoma of the Skin	0.06 (0.05, 0.08)	0.07 (0.05, 0.14)	0.11 (0.09, 0.12)
Breast	0.96 (0.91, 1.01)	0.92 (0.80, 1.06)	1.12 (1.08, 1.15)
Urinary Bladder	0.45 (0.41, 0.50)	0.35 (0.28, 0.46)	0.44 (0.41, 0.46)
Kidney and Renal Pelvis	0.32 (0.29, 0.35)	0.58 (0.51, 0.69)	0.53 (0.50, 0.55)
Brain and Other Nervous System	0.31 (0.29, 0.34)	0.23 (0.18, 0.31)	0.37 (0.36, 0.39)
Thyroid	0.11 (0.09, 0.13)	0.04 (0.02, 0.09)	0.11 (0.10, 0.12)
Hodgkin Lymphoma	0.02 (0.02, 0.03)	0.02 (0.01, 0.08)	0.05 (0.05, 0.06)
Non-Hodgkin Lymphoma	0.72 (0.68, 0.77)	0.49 (0.42, 0.60)	0.73 (0.70, 0.76)
Myeloma	0.28 (0.26, 0.31)	0.36 (0.29, 0.46)	0.42 (0.40, 0.44)
Leukemia	0.58 (0.55, 0.62)	0.40 (0.33, 0.49)	0.66 (0.64, 0.69)
Acute Lymphocytic Leukemia	0.05 (0.04, 0.06)	0.05 (0.03, 0.11)	0.07 (0.06, 0.07)
Chronic Lymphocytic Leukemia	0.04 (0.03, 0.06)	0.03 (0.01, 0.09)	0.08 (0.07, 0.10)
Acute Myeloid Leukemia	0.31 (0.28, 0.33)	0.16 (0.12, 0.22)	0.27 (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)

Devcan Version 6.7.7, April 2019, 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 1.18

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

Males, Total U.S., 2014-2016

Site	All Races	Whites	Blacks
	Percent (95% C.I.)	Percent (95% C.I.)	Percent (95% C.I.)
All Sites	21.34 (21.30, 21.38)	21.45 (21.40, 21.49)	21.45 (21.32, 21.59)
Oral Cavity and Pharynx	0.42 (0.41, 0.43)	0.42 (0.41, 0.43)	0.40 (0.38, 0.42)
Esophagus	0.76 (0.75, 0.76)	0.81 (0.80, 0.82)	0.48 (0.46, 0.50)
Stomach	0.45 (0.44, 0.45)	0.39 (0.38, 0.40)	0.75 (0.72, 0.78)
Colon and Rectum	1.83 (1.82, 1.85)	1.80 (1.78, 1.81)	2.14 (2.09, 2.19)
Liver and Intrahepatic Bile Duct	1.02 (1.01, 1.03)	0.95 (0.94, 0.96)	1.20 (1.17, 1.23)
Pancreas	1.39 (1.38, 1.40)	1.40 (1.39, 1.42)	1.37 (1.34, 1.41)
Larynx	0.19 (0.18, 0.19)	0.18 (0.18, 0.19)	0.28 (0.27, 0.30)
Lung and Bronchus	5.49 (5.47, 5.51)	5.54 (5.52, 5.56)	5.45 (5.39, 5.53)
Melanoma of the Skin	0.39 (0.38, 0.40)	0.45 (0.44, 0.45)	0.04 (0.03, 0.05)
Breast	0.03 (0.03, 0.03)	0.03 (0.03, 0.03)	0.05 (0.04, 0.06)
Prostate	2.44 (2.42, 2.46)	2.29 (2.28, 2.31)	3.94 (3.87, 4.02)
Testis	0.02 (0.02, 0.02)	0.02 (0.02, 0.02)	0.01 (0.01, 0.02)
Urinary Bladder	0.93 (0.92, 0.95)	0.99 (0.98, 1.00)	0.54 (0.51, 0.57)
Kidney and Renal Pelvis	0.60 (0.60, 0.61)	0.62 (0.61, 0.63)	0.51 (0.49, 0.54)
Brain and Other Nervous System	0.53 (0.53, 0.54)	0.58 (0.57, 0.59)	0.28 (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, 0.04)
Non-Hodgkin Lymphoma	0.81 (0.80, 0.82)	0.85 (0.84, 0.86)	0.46 (0.44, 0.48)
Myeloma	0.47 (0.47, 0.48)	0.45 (0.45, 0.46)	0.70 (0.67, 0.73)
Leukemia	0.96 (0.95, 0.97)	1.01 (1.00, 1.02)	0.65 (0.62, 0.67)
Acute Lymphocytic Leukemia	0.05 (0.05, 0.05)	0.05 (0.05, 0.05)	0.03 (0.02, 0.03)
Chronic Lymphocytic Leukemia	0.21 (0.21, 0.22)	0.22 (0.22, 0.23)	0.14 (0.13, 0.15)
Acute Myeloid Leukemia	0.39 (0.38, 0.40)	0.41 (0.40, 0.42)	0.25 (0.23, 0.26)
Chronic Myeloid Leukemia	0.05 (0.04, 0.05)	0.05 (0.05, 0.05)	0.03 (0.03, 0.04)

Devcan Version 6.7.7, April 2019, 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., 2014-2016

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	20.17 (19.85, 20.50)	16.97 (16.36, 17.64)	19.33 (19.12, 19.53)
Oral Cavity and Pharynx	0.46 (0.42, 0.52)	0.36 (0.28, 0.53)	0.33 (0.30, 0.36)
Esophagus	0.41 (0.37, 0.47)	0.64 (0.52, 0.83)	0.50 (0.46, 0.53)
Stomach	1.16 (1.08, 1.26)	0.60 (0.49, 0.79)	0.84 (0.79, 0.89)
Colon and Rectum	1.89 (1.78, 2.00)	1.83 (1.63, 2.10)	1.95 (1.88, 2.02)
Liver and Intrahepatic Bile Duct	1.99 (1.90, 2.08)	1.32 (1.17, 1.54)	1.66 (1.61, 1.72)
Pancreas	1.41 (1.32, 1.51)	0.96 (0.82, 1.18)	1.29 (1.24, 1.35)
Larynx	0.10 (0.08, 0.13)	0.17 (0.12, 0.33)	0.20 (0.18, 0.22)
Lung and Bronchus	5.02 (4.86, 5.19)	3.90 (3.59, 4.27)	3.45 (3.36, 3.54)
Melanoma of the Skin	0.06 (0.04, 0.09)	0.10 (0.05, 0.25)	0.13 (0.11, 0.16)
Breast	0.02 (0.01, 0.05)	0.00 (0.00, 0.15)	0.02 (0.02, 0.04)
Prostate	2.18 (2.04, 2.33)	2.20 (1.91, 2.56)	2.76 (2.66, 2.86)
Testis	0.01 (0.00, 0.03)	0.03 (0.02, 0.18)	0.03 (0.02, 0.04)
Urinary Bladder	0.73 (0.65, 0.83)	0.44 (0.33, 0.63)	0.65 (0.60, 0.70)
Kidney and Renal Pelvis	0.44 (0.39, 0.49)	0.75 (0.63, 0.95)	0.69 (0.65, 0.74)
Brain and Other Nervous System	0.32 (0.29, 0.37)	0.22 (0.16, 0.37)	0.41 (0.38, 0.44)
Thyroid	0.08 (0.06, 0.11)	0.04 (0.02, 0.19)	0.08 (0.07, 0.09)
Hodgkin Lymphoma	0.03 (0.02, 0.05)	0.02 (0.01, 0.17)	0.06 (0.05, 0.07)
Non-Hodgkin Lymphoma	0.85 (0.78, 0.93)	0.57 (0.44, 0.78)	0.83 (0.78, 0.88)
Myeloma	0.31 (0.28, 0.36)	0.35 (0.24, 0.55)	0.47 (0.45, 0.51)
Leukemia	0.72 (0.66, 0.78)	0.48 (0.39, 0.66)	0.80 (0.75, 0.85)
Acute Lymphocytic Leukemia	0.04 (0.03, 0.06)	0.04 (0.02, 0.19)	0.07 (0.06, 0.09)
Chronic Lymphocytic Leukemia	0.06 (0.04, 0.08)	0.03 (0.01, 0.18)	0.11 (0.09, 0.14)
Acute Myeloid Leukemia	0.38 (0.34, 0.43)	0.19 (0.13, 0.34)	0.31 (0.29, 0.34)
Chronic Myeloid Leukemia	0.03 (0.02, 0.06)	0.03 (0.01, 0.18)	0.06 (0.05, 0.08)

Source: Devcan Version 6.7.7, April 2019, 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., 2014-2016

Site	All Races	Whites	Blacks
	Percent (95% C.I.)	Percent (95% C.I.)	Percent (95% C.I.)
All Sites	18.37 (18.33, 18.41)	18.52 (18.48, 18.56)	18.48 (18.37, 18.60)
Oral Cavity and Pharynx	0.19 (0.18, 0.19)	0.19 (0.18, 0.19)	0.15 (0.14, 0.16)
Esophagus	0.20 (0.20, 0.20)	0.20 (0.20, 0.21)	0.19 (0.18, 0.21)
Stomach	0.30 (0.30, 0.31)	0.26 (0.26, 0.27)	0.47 (0.45, 0.49)
Colon and Rectum	1.68 (1.67, 1.69)	1.65 (1.63, 1.66)	1.94 (1.90, 1.98)
Liver and Intrahepatic Bile Duct	0.54 (0.53, 0.54)	0.51 (0.50, 0.52)	0.57 (0.55, 0.59)
Pancreas	1.35 (1.34, 1.36)	1.34 (1.32, 1.35)	1.52 (1.48, 1.56)
Larynx	0.05 (0.04, 0.05)	0.05 (0.04, 0.05)	0.06 (0.05, 0.07)
Lung and Bronchus	4.50 (4.48, 4.52)	4.67 (4.65, 4.69)	3.77 (3.71, 3.82)
Melanoma of the Skin	0.19 (0.19, 0.20)	0.22 (0.22, 0.23)	0.04 (0.03, 0.04)
Breast	2.57 (2.55, 2.58)	2.53 (2.52, 2.55)	3.08 (3.03, 3.13)
Cervix Uteri	0.22 (0.22, 0.22)	0.21 (0.20, 0.21)	0.33 (0.32, 0.35)
Corpus and Uterus, NOS	0.63 (0.62, 0.63)	0.58 (0.58, 0.59)	1.01 (0.98, 1.04)
Ovary	0.88 (0.87, 0.89)	0.91 (0.91, 0.92)	0.70 (0.68, 0.73)
Urinary Bladder	0.35 (0.34, 0.35)	0.35 (0.34, 0.36)	0.34 (0.32, 0.36)
Kidney and Renal Pelvis	0.33 (0.32, 0.33)	0.34 (0.33, 0.34)	0.29 (0.28, 0.31)
Brain and Other Nervous System	0.42 (0.41, 0.43)	0.46 (0.45, 0.46)	0.24 (0.23, 0.25)
Thyroid	0.07 (0.07, 0.07)	0.07 (0.07, 0.07)	0.08 (0.07, 0.09)
Hodgkin Lymphoma	0.03 (0.03, 0.03)	0.03 (0.03, 0.03)	0.02 (0.02, 0.03)
Non-Hodgkin Lymphoma	0.64 (0.63, 0.65)	0.67 (0.66, 0.68)	0.40 (0.38, 0.42)
Myeloma	0.38 (0.37, 0.39)	0.35 (0.34, 0.35)	0.68 (0.66, 0.71)
Leukemia	0.68 (0.68, 0.69)	0.71 (0.70, 0.72)	0.53 (0.51, 0.55)
Acute Lymphocytic Leukemia	0.04 (0.03, 0.04)	0.04 (0.04, 0.04)	0.03 (0.02, 0.03)
Chronic Lymphocytic Leukemia	0.14 (0.13, 0.14)	0.15 (0.14, 0.15)	0.10 (0.09, 0.11)
Acute Myeloid Leukemia	0.28 (0.28, 0.29)	0.30 (0.29, 0.30)	0.21 (0.20, 0.22)
Chronic Myeloid Leukemia	0.03 (0.03, 0.04)	0.04 (0.03, 0.04)	0.03 (0.02, 0.03)

Devcan Version 6.7.7, April 2019, 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 1.19 - continued

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

Females, Total U.S., 2014-2016

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	16.14 (15.88, 16.40)	15.12 (14.54, 15.75)	15.51 (15.34, 15.67)
Oral Cavity and Pharynx	0.22 (0.19, 0.26)	0.17 (0.10, 0.30)	0.15 (0.14, 0.18)
Esophagus	0.13 (0.11, 0.16)	0.14 (0.09, 0.26)	0.14 (0.12, 0.16)
Stomach	0.85 (0.78, 0.92)	0.43 (0.33, 0.59)	0.64 (0.60, 0.67)
Colon and Rectum	1.75 (1.65, 1.85)	1.49 (1.30, 1.72)	1.55 (1.49, 1.61)
Liver and Intrahepatic Bile Duct	1.08 (1.01, 1.15)	0.87 (0.73, 1.06)	0.98 (0.94, 1.03)
Pancreas	1.46 (1.37, 1.54)	1.06 (0.88, 1.28)	1.30 (1.26, 1.35)
Larynx	0.02 (0.01, 0.04)	0.01 (0.00, 0.11)	0.02 (0.01, 0.03)
Lung and Bronchus	3.30 (3.18, 3.42)	3.47 (3.20, 3.79)	2.22 (2.16, 2.29)
Melanoma of the Skin	0.07 (0.05, 0.09)	0.05 (0.02, 0.16)	0.08 (0.07, 0.10)
Breast	1.73 (1.65, 1.82)	1.79 (1.57, 2.06)	2.07 (2.01, 2.14)
Cervix Uteri	0.23 (0.20, 0.26)	0.23 (0.17, 0.34)	0.30 (0.28, 0.33)
Corpus and Uterus, NOS	0.47 (0.43, 0.51)	0.39 (0.29, 0.54)	0.57 (0.54, 0.60)
Ovary	0.68 (0.63, 0.73)	0.73 (0.61, 0.90)	0.74 (0.71, 0.78)
Urinary Bladder	0.24 (0.21, 0.29)	0.27 (0.18, 0.43)	0.28 (0.25, 0.30)
Kidney and Renal Pelvis	0.22 (0.19, 0.26)	0.42 (0.33, 0.57)	0.39 (0.36, 0.42)
Brain and Other Nervous System	0.30 (0.27, 0.34)	0.24 (0.17, 0.37)	0.35 (0.32, 0.37)
Thyroid	0.13 (0.11, 0.16)	0.03 (0.01, 0.13)	0.13 (0.11, 0.15)
Hodgkin Lymphoma	0.02 (0.01, 0.04)	0.02 (0.00, 0.12)	0.05 (0.04, 0.06)
Non-Hodgkin Lymphoma	0.63 (0.57, 0.68)	0.43 (0.33, 0.58)	0.65 (0.62, 0.69)
Myeloma	0.25 (0.22, 0.29)	0.38 (0.29, 0.53)	0.38 (0.35, 0.40)
Leukemia	0.48 (0.43, 0.53)	0.31 (0.23, 0.45)	0.56 (0.53, 0.59)
Acute Lymphocytic Leukemia	0.05 (0.03, 0.08)	0.06 (0.03, 0.15)	0.06 (0.05, 0.07)
Chronic Lymphocytic Leukemia	0.03 (0.02, 0.05)	0.03 (0.01, 0.14)	0.06 (0.05, 0.07)
Acute Myeloid Leukemia	0.25 (0.22, 0.29)	0.12 (0.08, 0.23)	0.23 (0.21, 0.25)
Chronic Myeloid Leukemia	0.02 (0.01, 0.04)	0.01 (0.00, 0.11)	0.02 (0.02, 0.03)

Source: Devcan Version 6.7.7, April 2019, 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 1.20
U.S. and SEER Death Rates by Primary Cancer Site and Race/Ethnicity, 2012-2016

		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	161.0	161.5	185.6	146.7	100.0	113.5	165.4	154.5	157.8	174.2	125.6	103.2	113.2	162.2
	Male	193.1	193.0	233.5	176.3	118.6	138.1	197.3	184.1	187.2	216.9	150.1	124.2	136.9	191.8
	Female	137.7	138.3	156.0	124.9	86.6	96.2	141.9	133.5	136.8	148.5	107.7	88.1	97.1	140.9
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	2.2	1.6	2.5
	Male	3.9	3.8	4.7	3.7	3.1	2.4	4.0	3.7	3.7	4.1	3.1	3.3	2.5	3.9
	Female	1.3	1.3	1.3	1.0	1.2	0.8	1.4	1.3	1.3	1.4	0.7	1.2	0.8	1.4
Esophagus	Both Sexes	4.0	4.2	3.3	3.5	1.6	2.0	4.5	3.7	4.0	3.1	3.0	1.6	2.1	4.3
	Male	7.1	7.5	5.6	6.2	2.7	3.7	7.9	6.6	7.1	5.2	4.8	2.8	3.9	7.5
	Female	1.5	1.5	1.7	1.4	0.7	0.7	1.5	1.4	1.4	1.6	1.5	0.6	0.8	1.5
Stomach	Both Sexes	3.1	2.7	5.5	5.0	5.3	5.1	2.4	3.5	3.1	5.5	5.9	5.6	5.4	2.6
	Male	4.2	3.7	8.2	6.9	6.8	6.5	3.3	4.8	4.1	8.0	8.2	7.2	6.9	3.6
	Female	2.3	2.0	3.8	3.6	4.2	4.0	1.7	2.6	2.3	3.8	4.1	4.3	4.4	1.8
Colon & Rectum	Both Sexes	14.2	13.8	18.9	15.6	9.8	11.2	14.0	13.6	13.5	17.6	14.4	10.2	10.9	13.7
	Male	16.9	16.5	23.8	19.1	11.6	14.4	16.6	16.2	15.9	21.8	17.6	12.4	13.9	16.0
	Female	11.9	11.7	15.5	13.0	8.4	8.8	11.9	11.6	11.5	14.8	12.0	8.5	8.6	11.7
Liver & Intrahepatic Bile Duct	Both Sexes	6.5	6.1	8.4	10.6	9.3	9.3	5.7	6.8	6.3	8.0	8.9	9.4	9.6	5.7
	Male	9.6	8.9	13.2	14.4	13.8	13.3	8.3	10.0	9.2	12.8	11.2	14.2	13.8	8.3
	Female	3.9	3.7	4.7	7.4	5.8	6.0	3.4	4.1	3.8	4.5	6.8	5.7	6.1	3.4
Pancreas	Both Sexes	11.0	10.9	13.3	8.9	7.6	8.5	11.1	10.9	11.0	12.4	7.6	8.1	8.5	11.3
	Male	12.6	12.6	14.8	9.9	8.2	9.4	12.9	12.4	12.7	13.8	8.6	8.7	9.3	13.0
	Female	9.6	9.4	12.2	8.0	7.1	7.7	9.5	9.6	9.6	11.3	6.7	7.5	7.8	9.8
Larynx	Both Sexes	1.0	1.0	1.6	0.8	0.3	0.7	1.0	0.9	0.9	1.4	-	0.3	0.6	0.9
	Male	1.8	1.7	3.1	1.6	0.7	1.5	1.7	1.6	1.6	2.8	-	0.7	1.3	1.6
	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	41.9	42.7	44.3	34.8	22.7	18.3	45.0	37.6	39.0	39.6	25.1	23.5	17.2	41.9
	Male	51.6	51.7	62.1	42.0	30.2	25.3	54.1	45.8	46.3	54.9	32.7	32.0	23.2	49.2
	Female	34.4	35.6	32.4	29.4	17.3	13.1	38.0	31.5	33.5	29.4	19.4	17.2	12.9	36.4
Melanoma of the Skin	Both Sexes	2.5	2.9	0.4	0.7	0.3	0.7	3.2	2.3	2.8	0.3	0.7	0.3	0.7	3.2
	Male	3.7	4.3	0.4	1.0	0.4	0.9	4.7	3.5	4.2	0.4	-	0.4	0.9	4.7
	Female	1.5	1.8	0.3	0.5	0.3	0.5	2.0	1.4	1.8	0.3	-	0.3	0.5	2.0
Breast	Female	20.6	20.1	28.1	14.3	11.2	14.2	20.6	20.2	20.2	27.2	13.5	11.8	14.1	20.8

[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, 2012-2016

		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	3.5	2.8	1.7	2.6	2.1	2.1	2.1	3.1	2.1	1.8	2.6	1.9
Corpus & Uterus, NOS	Female	4.7	4.4	8.5	3.5	3.1	3.9	4.4	5.0	4.7	8.7	3.8	3.2	4.1	4.7
Ovary	Female	7.0	7.3	6.1	6.3	4.4	5.2	7.5	7.1	7.5	6.1	5.5	4.3	5.4	7.8
Prostate	Male	19.2	18.0	38.9	19.2	8.6	15.8	18.1	19.4	18.6	37.9	16.6	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	2.4	1.7	2.3	4.8	4.3	4.7	3.5	2.3	1.8	2.3	4.9
Bladder	Male	7.6	8.0	5.4	3.9	2.9	3.8	8.4	7.4	8.1	5.2	3.4	3.0	3.8	8.5
	Female	2.1	2.2	2.4	1.4	0.9	1.2	2.3	2.1	2.3	2.4	1.6	0.9	1.3	2.4
Kidney &	Both Sexes	3.8	3.9	3.6	5.7	1.8	3.5	3.9	3.5	3.7	3.2	4.8	1.9	3.2	3.7
Renal	Male	5.5	5.7	5.5	8.1	2.7	5.0	5.7	5.2	5.5	5.0	6.3	2.9	4.7	5.5
Pelvis	Female	2.3	2.4	2.3	3.8	1.1	2.3	2.4	2.1	2.3	1.9	3.5	1.2	2.0	2.3
Brain &	Both Sexes	4.4	4.8	2.6	2.4	2.2	3.0	5.0	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	5.8	3.2	2.6	2.6	3.5	6.2
System	Female	3.6	3.9	2.1	2.1	1.9	2.6	4.1	3.5	3.9	2.0	2.0	2.0	2.5	4.1
Thyroid	Both Sexes	0.5	0.5	0.5	0.4	0.6	0.6	0.5	0.5	0.5	0.5	-	0.6	0.7	0.5
	Male	0.5	0.5	0.4	0.5	0.5	0.6	0.5	0.5	0.6	0.4	-	0.6	0.6	0.5
	Female	0.5	0.5	0.6	0.4	0.6	0.7	0.4	0.5	0.5	0.6	-	0.7	0.8	0.5
Hodgkin	Both Sexes	0.3	0.3	0.3	-	0.1	0.4	0.3	0.3	0.3	0.3	-	0.2	0.4	0.3
Lymphoma	Male	0.4	0.4	0.4	-	0.2	0.5	0.4	0.4	0.4	0.4	-	0.2	0.5	0.4
	Female	0.2	0.3	0.2	-	0.1	0.3	0.2	0.2	0.3	0.2	-	0.1	0.3	0.3
Non-Hodgkin	Both Sexes	5.6	5.9	4.1	4.4	3.9	4.8	5.9	5.5	5.8	4.0	3.9	3.9	4.8	5.9
Lymphoma	Male	7.3	7.6	5.2	5.8	4.9	6.1	7.6	7.1	7.5	5.1	4.9	4.9	6.2	7.6
	Female	4.4	4.5	3.3	3.3	3.1	3.8	4.6	4.3	4.5	3.2	3.2	3.1	3.8	4.5
Myeloma	Both Sexes	3.3	3.1	6.2	3.1	1.6	2.8	3.1	3.2	3.1	5.8	2.9	1.6	2.9	3.1
	Male	4.2	4.0	7.4	3.4	2.0	3.4	4.0	4.1	4.0	6.9	2.7	2.0	3.5	4.0
	Female	2.7	2.4	5.4	2.8	1.2	2.3	2.4	2.6	2.4	5.1	3.1	1.3	2.4	2.4
Leukemia	Both Sexes	6.5	6.8	5.5	4.1	3.6	4.7	6.9	6.3	6.7	5.2	3.4	3.7	4.7	6.8
	Male	8.8	9.1	7.2	5.4	4.7	6.0	9.3	8.3	8.9	6.7	5.2	4.9	6.0	9.0
	Female	4.9	5.1	4.4	3.0	2.8	3.8	5.1	4.8	5.1	4.3	2.0	2.9	3.8	5.1

[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, 2016[a]
Using Different Tumor Inclusion Criteria[b]

		5-Year Limited Duration			24-year Limited Duration	
Site	Sex	1st Invasive Tumor Ever[c]	1st Per Site in Previous 24 Years[d]	1st Per Site in Previous 5 Years[e]	1st Invasive Tumor Ever[c]	1st Per Site in Previous 24 Years[d]
All Sites	Both Sexes	4,618,309	4,788,249	5,268,178	13,238,684	13,725,579
	Male	2,265,828	2,321,794	2,561,190	6,465,129	6,615,379
	Female	2,352,481	2,466,455	2,706,988	6,773,555	7,110,200
Oral Cavity & Pharynx	Both Sexes	116,614	137,601	142,958	285,683	322,983
	Male	83,745	97,382	100,597	197,295	220,172
	Female	32,869	40,219	42,361	88,388	102,811
Esophagus	Both Sexes	21,742	27,114	27,273	37,573	44,872
	Male	16,966	21,041	21,144	29,074	34,504
	Female	4,776	6,073	6,129	8,499	10,368
Stomach	Both Sexes	44,232	53,399	54,255	89,342	104,126
	Male	25,922	31,498	31,907	51,076	59,722
	Female	18,310	21,901	22,348	38,266	44,404
Colon & Rectum	Both Sexes	384,576	444,429	452,381	1,077,905	1,211,974
	Male	200,293	230,124	234,263	550,903	613,912
	Female	184,283	214,305	218,118	527,002	598,062
Liver & Intrahepatic Bile Duct	Both Sexes	48,352	56,128	56,342	70,556	80,067
	Male	34,831	39,846	40,003	50,338	56,224
	Female	13,521	16,282	16,339	20,218	23,843
Pancreas	Both Sexes	43,231	53,929	54,044	57,753	70,735
	Male	21,568	27,124	27,209	28,410	35,088
	Female	21,663	26,805	26,835	29,343	35,647
Larynx	Both Sexes	29,186	34,757	35,246	74,772	85,315
	Male	23,886	28,382	28,773	61,289	69,580
	Female	5,300	6,375	6,473	13,483	15,735
Lung & Bronchus	Both Sexes	224,901	296,258	307,825	387,582	494,958
	Male	102,077	135,269	139,706	170,233	217,057
	Female	122,824	160,989	168,119	217,349	277,901
Melanoma of the Skin	Both Sexes	291,465	340,956	359,793	897,922	1,003,650
	Male	161,053	191,955	204,571	469,112	530,596
	Female	130,412	149,001	155,222	428,810	473,054
Breast	Female	915,040	1,009,922	1,069,620	2,862,940	3,112,731
Cervix	Female	40,564	43,027	43,191	172,170	181,314
Corpus & Uterus, NOS	Female	200,697	225,923	226,147	575,275	636,687
Ovary[f]	Female	62,449	71,655	71,737	158,048	180,026

[a] U.S. 2016 cancer prevalence counts are based on 2016 cancer prevalence proportions from the SEER 13 registries (not including the Alaska Natives Registry) and 1/1/2016 U.S. population estimates based on the average of 2015 and 2016 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 24 years (1992-2015)

[e] (e) First invasive tumor for each cancer site diagnosed during the previous 5 years (2011-2015)

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 24-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 1/1/2016.
In method (d) the 1981 melanoma is counted for the melanoma and all sites 24-year limited duration prevalence. The 2011 breast cancer is counted for the breast 5-year and 24-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, 2016[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 24 Years[d]	5-Year Limited Duration: 1st Per Site in Previous 5 Years[e]	24-year Limited Duration: 1st Invasive Tumor Ever[c]	24-year Limited Duration: 1st Per Site in Previous 24 Years[d]
Prostate	Male	852,616	925,846	925,901	2,883,784	3,069,398
Testis	Male	43,378	44,309	44,823	180,132	183,792
Urinary Bladder	Both Sexes	201,203	254,235	260,387	528,898	631,413
	Male	154,809	195,876	200,971	400,452	477,786
	Female	46,394	58,359	59,416	128,446	153,627
Kidney & Renal Pelvis	Both Sexes	168,243	204,952	208,257	406,205	479,439
	Male	105,668	129,796	132,082	248,043	294,719
	Female	62,575	75,156	76,175	158,162	184,720
Brain & Nervous System	Both Sexes	44,838	48,165	48,639	121,093	126,388
	Male	24,984	26,796	27,023	64,923	67,482
	Female	19,854	21,369	21,616	56,170	58,906
Thyroid	Both Sexes	203,126	229,536	230,264	587,959	644,571
	Male	46,377	55,079	55,254	127,419	144,092
	Female	156,749	174,457	175,010	460,540	500,479
Hodgkin Lymphoma	Both Sexes	35,058	37,437	37,487	140,786	146,789
	Male	19,459	20,890	20,914	74,193	77,233
	Female	15,599	16,547	16,573	66,593	69,556
Non-Hodgkin Lymphoma	Both Sexes	209,115	248,946	254,357	566,981	644,761
	Male	113,015	135,137	138,113	300,944	342,069
	Female	96,100	113,809	116,244	266,037	302,692
Myeloma	Both Sexes	66,177	78,454	78,949	111,277	128,969
	Male	36,691	44,371	44,700	61,269	72,052
	Female	29,486	34,083	34,249	50,008	56,917
Leukemia	Both Sexes	130,295	153,253	153,837	336,170	376,508
	Male	76,451	90,192	90,566	193,982	217,145
	Female	53,844	63,061	63,271	142,188	159,363
Acute Lymphocytic Leukemia	Both Sexes	19,515	20,277	20,277	69,109	70,308
	Male	10,797	11,203	11,203	38,607	39,179
	Female	8,718	9,074	9,074	30,502	31,129
Childhood (Ages 0-19)	Both Sexes	67,096	67,129	67,682	264,287	264,940
	Male	35,300	35,299	35,549	139,152	139,459
	Female	31,796	31,830	32,133	125,135	125,481
Kaposi Sarcoma	Both Sexes	7,567	8,281	8,281	32,104	33,825
	Male	6,918	7,549	7,549	30,486	32,021
	Female	649	732	732	1,618	1,804
Mesothelioma	Both Sexes	3,199	4,257	4,257	4,536	5,767
	Male	2,203	2,983	2,983	2,834	3,687
	Female	996	1,274	1,274	1,702	2,080

[a] U.S. 2016 cancer prevalence counts are based on 2016 cancer prevalence proportions from the SEER 9 registries and 1/1/2016 U.S. population estimates based on the average of 2015 and 2016 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 24 years (1992-2015)

[e] (e) First invasive tumor for each cancer site diagnosed during the previous 5 years (2011-2015)

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 24-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 1/1/2016.
In method (d) the 1981 melanoma is counted for the melanoma and all sites 24-year limited duration prevalence. The 2011 breast cancer is counted for the breast 5-year and 24-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, 2016[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	7,046,820	19,013	45,658	92,312	168,663	324,888	900,095	1,901,064	3,595,127
Females	8,292,168	17,282	38,768	93,009	252,052	631,369	1,452,263	2,179,010	3,628,415
Oral Cavity & Pharynx									
Males	250,059	79	483	1,435	3,554	12,626	49,283	84,123	98,476
Females	120,250	80	486	1,591	3,870	8,272	20,688	31,925	53,339
Esophagus									
Males	35,559	0	0	29	183	903	4,460	11,824	18,160
Females	10,918	0	0	11	54	242	1,320	3,146	6,144
Stomach									
Males	64,837	0	24	160	789	2,727	9,103	17,395	34,640
Females	48,217	0	34	215	859	2,676	7,066	11,599	25,768
Colon & Rectum									
Males	661,406	19	310	1,521	6,867	26,306	95,856	171,638	358,889
Females	663,516	39	358	1,832	6,831	25,137	85,953	146,080	397,285
Liver & Intrahep									
Males	57,099	624	769	529	434	1,690	10,569	26,699	15,787
Females	25,982	541	654	392	562	1,249	3,991	9,069	9,525
Pancreas									
Males	36,418	8	58	120	525	1,740	5,902	11,974	16,091
Females	37,136	12	70	338	716	2,183	6,294	10,710	16,812
Larynx									
Males	78,929	6	8	102	246	1,565	8,956	22,799	45,246
Females	17,422	0	16	16	151	658	3,099	5,295	8,188
Lung & Bronchus									
Males	239,856	51	127	370	1,223	4,483	23,185	66,309	144,108
Females	298,387	42	71	411	1,456	5,877	32,254	76,338	181,938
Melanoma of the Skin									
Males	611,158	58	530	4,277	16,027	39,516	98,628	166,460	285,663
Females	584,451	109	657	8,033	31,954	66,800	124,763	146,768	205,367

[a] U.S. 2016 cancer prevalence counts are based on 2016 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 1/1/2016 U.S. population estimates based on the average of 2015 and 2016 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 24 years.
[b] Cases diagnosed more than 24 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, 2016[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	19,496	0	0	4	135	584	2,200	4,872	11,703
Females	3,477,866	16	25	3,276	39,571	207,774	602,250	975,728	1,649,227
Cervix									
Females	289,696	0	42	1,803	14,401	41,426	66,591	72,523	92,910
Corpus & Uterus, NOS									
Females	772,245	8	14	867	7,585	28,997	101,642	228,398	404,735
Ovary[d]									
Females	229,875	106	1,124	4,479	8,509	19,167	46,532	64,680	85,279
Prostate									
Males	3,110,403	24	52	54	206	14,018	217,572	865,480	2,012,997
Urinary Bladder									
Males	525,713	60	99	541	2,145	8,784	39,848	120,226	354,010
Females	173,737	49	64	251	979	3,027	13,312	36,306	119,749
Kidney & Renal Pelvis									
Males	326,154	1,538	2,140	2,609	9,271	21,911	54,924	92,324	141,438
Females	207,050	1,706	2,575	3,132	6,768	14,900	33,535	52,972	91,463
Hodgkin Lymphoma									
Males	108,576	179	2,567	9,822	15,519	21,451	26,921	19,909	12,208
Females	102,397	70	1,843	8,849	16,460	21,101	24,748	17,379	11,947
Non-Hodgkin Lymphoma									
Males	367,558	900	4,029	8,311	13,996	27,628	61,422	94,982	156,290
Females	327,146	521	1,769	4,696	10,164	21,105	48,512	82,379	157,999
Myeloma									
Males	72,999	0	8	83	680	3,390	11,695	22,552	34,593
Females	58,392	3	9	60	426	2,610	8,912	17,672	28,699
Leukemia									
Males	235,556	6,996	15,050	16,790	12,272	17,182	30,974	51,848	84,446
Females	179,217	6,251	11,682	13,694	10,821	13,891	22,189	34,672	66,018
Acute Lymphocytic Leuk									
Males	52,176	5,892	12,608	13,226	8,345	6,762	3,097	1,536	710
Females	43,589	5,242	9,971	10,290	7,475	5,610	2,594	1,532	874

[a] U.S. 2016 cancer prevalence counts are based on 2016 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 1/1/2016 U.S. population estimates based on the average of 2015 and 2016 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 24 years.
[b] Cases diagnosed more than 24 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] 2012-2016	APC[c] 2007-2016
All Sites	442.0	-1.3*
Breast	68.4	-0.1
Lung and Bronchus	54.9	-2.3*
Prostate[f]	50.0	-5.5*
Colon and Rectum	38.6	-2.6*
Melanoma of the Skin	22.2	1.2*
Urinary Bladder	20.1	-1.5*
Non-Hodgkin Lymphoma	19.6	-0.7*
Kidney and Renal Pelvis	16.1	0.3
Thyroid	15.8	2.0*
Corpus and Uterus, NOS[f]	14.6	0.9*
Leukemia	14.1	0.0
Pancreas	12.9	0.4*
Oral Cavity and Pharynx	11.3	0.6*
Liver & IBD[g]	8.8	1.7*
Stomach	7.4	-0.9*

White

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	451.7	-1.3*
Breast	69.2	-0.2
Lung and Bronchus	56.7	-2.3*
Prostate[f]	47.0	-6.0*
Colon and Rectum	38.1	-2.6*
Melanoma of the Skin	26.6	1.3*
Urinary Bladder	22.2	-1.5*
Non-Hodgkin Lymphoma	20.6	-0.8*
Kidney and Renal Pelvis	16.6	0.3
Thyroid	16.5	1.8*
Leukemia	14.9	-0.1
Corpus and Uterus, NOS[f]	14.8	0.7*
Pancreas	13.0	0.4*
Oral Cavity and Pharynx	11.9	0.8*
Liver & IBD[g]	8.0	2.2*
Brain and ONS[g]	7.0	-0.8*

Black

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	442.9	-1.7*
Prostate[f]	74.9	-4.9*
Breast	70.9	0.2
Lung and Bronchus	56.2	-2.6*
Colon and Rectum	44.6	-3.1*
Kidney and Renal Pelvis	17.4	0.4
Corpus and Uterus, NOS[f]	15.6	1.6*
Pancreas	15.2	-0.1
Non-Hodgkin Lymphoma	14.7	-0.3
Myeloma	13.7	0.7
Urinary Bladder	11.8	-0.7
Leukemia	10.9	0.9
Liver & IBD[g]	10.8	1.2*
Stomach	10.3	-2.2*
Thyroid	9.6	3.0*
Oral Cavity and Pharynx	8.6	-1.7*

Asian/Pacific Islander

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	297.9	-1.2*
Breast	54.8	1.0*
Lung and Bronchus	36.0	-1.4*
Colon and Rectum	31.8	-3.0*
Prostate[f]	24.6	-6.4*
Thyroid	15.6	2.0*
Non-Hodgkin Lymphoma	13.4	-0.3
Liver & IBD[g]	13.0	-2.5*
Corpus and Uterus, NOS[f]	11.3	1.4*
Stomach	10.9	-2.9*
Pancreas	9.8	0.2
Urinary Bladder	8.8	-1.2*
Kidney and Renal Pelvis	8.4	-0.1
Oral Cavity and Pharynx	8.4	0.8
Leukemia	7.8	-0.3
Ovary[fh]	5.1	-0.9

American Indian/Alaska Native[d]

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	307.6	-0.8*
Breast	42.8	-0.3
Colon and Rectum	39.3	-0.2
Lung and Bronchus	37.8	-2.0*
Prostate[f]	24.6	-6.1*
Kidney and Renal Pelvis	16.8	-1.2
Liver & IBD[g]	13.6	1.1
Non-Hodgkin Lymphoma	11.3	-1.3
Corpus and Uterus, NOS[f]	10.5	-0.5
Pancreas	9.5	0.6
Thyroid	9.3	3.3*
Urinary Bladder	8.9	0.2
Stomach	8.7	-1.3
Leukemia	8.6	2.4
Oral Cavity and Pharynx	8.3	0.9
Melanoma of the Skin	5.5	3.6

Hispanic[e]

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	345.8	-1.3*
Breast	52.3	0.4
Prostate[f]	41.3	-6.1*
Colon and Rectum	33.7	-2.2*
Lung and Bronchus	29.1	-2.5*
Non-Hodgkin Lymphoma	17.9	-0.5
Kidney and Renal Pelvis	15.7	1.0*
Thyroid	13.9	3.2*
Liver & IBD[g]	13.6	0.8
Corpus and Uterus, NOS[f]	12.8	2.4*
Pancreas	11.3	0.1
Urinary Bladder	11.1	-1.4*
Leukemia	10.8	-0.1
Stomach	10.4	-1.8*
Oral Cavity and Pharynx	6.9	-1.1*
Myeloma	6.7	0.5

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 2012-2016 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] 2012-2016	APC[c] 2007-2016
All Sites	481.0	-2.3*
Prostate	109.5	-5.7*
Lung and Bronchus	63.0	-3.0*
Colon and Rectum	44.2	-2.8*
Urinary Bladder	35.2	-1.7*
Melanoma of the Skin	28.8	1.2*
Non-Hodgkin Lymphoma	23.9	-0.7*
Kidney and Renal Pelvis	22.1	0.2
Leukemia	18.1	0.0
Oral Cavity and Pharynx	17.0	0.6*
Pancreas	14.6	0.3
Liver & IBD[f]	13.6	1.4*
Stomach	10.0	-1.5*
Myeloma	8.7	0.8
Thyroid	8.0	2.5*
Brain and ONS[f]	7.5	-0.9*

White

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	486.0	-2.3*
Prostate	101.9	-6.2*
Lung and Bronchus	63.5	-3.0*
Colon and Rectum	43.4	-2.9*
Urinary Bladder	38.5	-1.7*
Melanoma of the Skin	33.9	1.2*
Non-Hodgkin Lymphoma	25.0	-0.8*
Kidney and Renal Pelvis	22.8	0.3
Leukemia	19.1	-0.2
Oral Cavity and Pharynx	17.9	0.9*
Pancreas	14.8	0.4
Liver & IBD[f]	12.2	1.9*
Stomach	8.9	-1.4*
Thyroid	8.6	2.3*
Brain and ONS[f]	8.3	-0.9*
Myeloma	8.1	0.7

Black

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	520.8	-3.0*
Prostate	176.7	-5.3*
Lung and Bronchus	73.5	-3.4*
Colon and Rectum	52.4	-3.1*
Kidney and Renal Pelvis	24.3	0.4
Urinary Bladder	19.7	-1.2*
Liver & IBD[f]	17.8	0.9
Non-Hodgkin Lymphoma	17.7	-0.5
Pancreas	16.7	-0.2
Myeloma	16.3	0.2
Stomach	14.1	-2.7*
Leukemia	13.9	0.7
Oral Cavity and Pharynx	13.4	-1.8*
Larynx	7.6	-2.9*
Esophagus	6.4	-4.8*
Brain and ONS[f]	4.7	-0.7

Asian/Pacific Islander

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	301.1	-2.4*
Prostate	55.6	-6.6*
Lung and Bronchus	46.3	-2.1*
Colon and Rectum	37.9	-2.4*
Liver & IBD[f]	19.9	-2.5*
Non-Hodgkin Lymphoma	16.4	-0.5
Urinary Bladder	15.5	-1.3*
Stomach	14.3	-2.9*
Kidney and Renal Pelvis	12.0	-0.1
Oral Cavity and Pharynx	11.8	0.5
Pancreas	10.8	0.3
Leukemia	9.7	-0.3
Thyroid	7.7	3.9*
Myeloma	4.9	0.5
Brain and ONS[f]	4.3	-0.5
Esophagus	3.6	-0.5

American Indian/Alaska Native[d]

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	315.3	-1.7*
Prostate	55.4	-6.3*
Lung and Bronchus	43.3	-3.3*
Colon and Rectum	41.2	-0.8
Kidney and Renal Pelvis	21.2	-2.0
Liver & IBD[f]	19.3	1.3
Urinary Bladder	14.9	-1.4
Non-Hodgkin Lymphoma	12.0	-3.7
Oral Cavity and Pharynx	11.8	-0.6
Stomach	11.5	-1.5
Pancreas	11.4	2.6
Leukemia	11.0	5.5
Myeloma	6.0	-
Esophagus	5.9	-
Melanoma of the Skin	5.8	-
Testis	5.2	4.3

Hispanic[e]

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	370.4	-2.8*
Prostate	93.4	-6.5*
Colon and Rectum	40.0	-2.6*
Lung and Bronchus	35.2	-3.6*
Kidney and Renal Pelvis	20.8	0.8
Non-Hodgkin Lymphoma	20.7	-0.7
Liver & IBD[f]	20.3	0.3
Urinary Bladder	19.5	-1.5*
Leukemia	13.0	-0.2
Stomach	13.0	-3.0*
Pancreas	12.0	-0.1
Oral Cavity and Pharynx	10.1	-1.3
Myeloma	8.2	0.4
Brain and ONS[f]	5.8	-1.0*
Thyroid	5.7	3.6*
Testis	5.2	1.8*

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 2012-2016 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] 2012-2016	APC[c] 2007-2016
All Sites	417.1	-0.3*
Breast	127.5	0.1
Lung and Bronchus	48.9	-1.7*
Colon and Rectum	33.9	-2.5*
Corpus and Uterus, NOS	27.5	1.1*
Thyroid	23.3	2.0*
Melanoma of the Skin	17.5	1.1*
Non-Hodgkin Lymphoma	16.2	-0.8*
Pancreas	11.5	0.4
Ovary[g]	11.4	-2.0*
Kidney and Renal Pelvis	10.9	0.1
Leukemia	10.9	-0.1
Urinary Bladder	8.7	-1.6*
Cervix Uteri	7.3	-1.1*
Oral Cavity and Pharynx	6.4	0.2
Myeloma	5.6	0.9*

White

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	430.9	-0.4*
Breast	130.5	-0.1
Lung and Bronchus	51.8	-1.6*
Colon and Rectum	33.6	-2.4*
Corpus and Uterus, NOS	28.1	0.9*
Thyroid	24.5	1.7*
Melanoma of the Skin	21.3	1.3*
Non-Hodgkin Lymphoma	17.0	-0.9*
Ovary[g]	11.9	-2.1*
Leukemia	11.5	-0.2
Pancreas	11.4	0.4*
Kidney and Renal Pelvis	11.3	0.1
Urinary Bladder	9.5	-1.6*
Cervix Uteri	7.2	-1.0*
Oral Cavity and Pharynx	6.6	0.3
Brain and ONS[f]	6.0	-0.8

Black

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	391.3	-0.4*
Breast	124.0	0.4
Lung and Bronchus	44.6	-1.8*
Colon and Rectum	39.1	-3.2*
Corpus and Uterus, NOS	27.4	1.9*
Thyroid	14.3	3.3*
Pancreas	14.0	0.0
Non-Hodgkin Lymphoma	12.4	0.0
Kidney and Renal Pelvis	12.1	0.3
Myeloma	11.9	0.9
Ovary[g]	9.2	-1.4*
Leukemia	8.9	1.1*
Cervix Uteri	8.7	-2.9*
Stomach	7.7	-1.9*
Urinary Bladder	6.6	-0.3
Liver & IBD[f]	5.4	1.8*

Asian/Pacific Islander

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	299.7	-0.2
Breast	100.1	1.0*
Lung and Bronchus	28.2	-0.6
Colon and Rectum	26.9	-3.6*
Thyroid	22.6	1.5*
Corpus and Uterus, NOS	20.8	1.5*
Non-Hodgkin Lymphoma	11.0	-0.1
Ovary[g]	9.4	-0.9
Pancreas	9.1	0.3
Stomach	8.2	-3.1*
Liver & IBD[f]	7.4	-2.4*
Cervix Uteri	6.4	-1.3*
Leukemia	6.3	-0.6
Oral Cavity and Pharynx	5.6	1.3
Kidney and Renal Pelvis	5.5	-0.1
Urinary Bladder	3.8	-1.2

American Indian/Alaska Native[d]

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	306.0	0.0
Breast	79.5	-0.2
Colon and Rectum	37.9	0.5
Lung and Bronchus	33.9	-0.7
Corpus and Uterus, NOS	19.7	-0.4
Thyroid	14.2	3.4*
Kidney and Renal Pelvis	13.1	0.0
Non-Hodgkin Lymphoma	10.6	1.1
Liver & IBD[f]	8.5	0.4
Ovary[g]	8.1	-4.4*
Pancreas	8.0	-1.3
Cervix Uteri	7.9	0.7
Leukemia	6.6	-0.9
Stomach	6.4	-1.7
Melanoma of the Skin	5.3	-
Oral Cavity and Pharynx	5.3	-

Hispanic[e]

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	334.9	0.1
Breast	97.2	0.6
Colon and Rectum	28.8	-1.8*
Lung and Bronchus	24.8	-1.3*
Corpus and Uterus, NOS	24.1	2.7*
Thyroid	21.9	3.2*
Non-Hodgkin Lymphoma	15.7	-0.1
Kidney and Renal Pelvis	11.6	1.0
Pancreas	10.7	0.3
Ovary[g]	10.3	-1.0*
Cervix Uteri	9.3	-2.1*
Leukemia	9.1	-0.2
Stomach	8.5	-0.5
Liver & IBD[f]	7.9	1.7
Myeloma	5.5	0.6
Urinary Bladder	5.1	-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 2012-2016 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] 2012-2016	APC[c] 2007-2016
All Sites	161.0	-1.5*
Lung and Bronchus	41.9	-2.9*
Colon and Rectum	14.2	-2.3*
Breast	11.4	-1.7*
Pancreas	11.0	0.1
Prostate[f]	7.8	-2.0*
Leukemia	6.5	-1.4*
Liver & IBD[g]	6.5	2.4*
Non-Hodgkin Lymphoma	5.6	-2.2*
Brain and ONS[g]	4.4	0.6*
Urinary Bladder	4.4	-0.2
Esophagus	4.0	-1.0*
Ovary[f]	3.9	-2.5*
Kidney and Renal Pelvis	3.8	-1.0*
Myeloma	3.3	-0.4
Stomach	3.1	-2.0*

White

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	161.5	-1.4*
Lung and Bronchus	42.7	-2.8*
Colon and Rectum	13.8	-2.2*
Breast	11.1	-1.7*
Pancreas	10.9	0.2*
Prostate[f]	7.4	-1.8*
Leukemia	6.8	-1.3*
Liver & IBD[g]	6.1	2.6*
Non-Hodgkin Lymphoma	5.9	-2.2*
Brain and ONS[g]	4.8	0.7*
Urinary Bladder	4.6	0.0
Esophagus	4.2	-0.4*
Ovary[f]	4.0	-2.5*
Kidney and Renal Pelvis	3.9	-0.8*
Myeloma	3.1	-0.4
Melanoma of the Skin	2.9	-1.7*

Black

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	185.6	-2.1*
Lung and Bronchus	44.3	-3.3*
Colon and Rectum	18.9	-2.9*
Breast	16.4	-1.7*
Prostate[f]	14.3	-3.5*
Pancreas	13.3	-0.5*
Liver & IBD[g]	8.4	1.9*
Myeloma	6.2	-0.5
Stomach	5.5	-3.1*
Leukemia	5.5	-1.8*
Corpus and Uterus, NOS[f]	5.0	1.9*
Non-Hodgkin Lymphoma	4.1	-1.6*
Ovary[f]	3.6	-1.8*
Kidney and Renal Pelvis	3.6	-1.5*
Urinary Bladder	3.5	-0.6
Esophagus	3.3	-4.7*

Asian/Pacific Islander

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	100.0	-1.4*
Lung and Bronchus	22.7	-2.1*
Colon and Rectum	9.8	-2.3*
Liver & IBD[g]	9.3	-1.0*
Pancreas	7.6	-0.2
Breast	6.3	-0.2
Stomach	5.3	-3.3*
Non-Hodgkin Lymphoma	3.9	-1.3*
Leukemia	3.6	-1.6
Prostate[f]	3.5	-2.3*
Ovary[f]	2.5	-1.1
Brain and ONS[g]	2.2	3.2*
Oral Cavity and Pharynx	2.0	1.0
Kidney and Renal Pelvis	1.8	-2.0*
Urinary Bladder	1.7	0.1
Corpus and Uterus, NOS[f]	1.7	2.6*

American Indian/Alaska Native[d]

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	146.7	-1.3*
Lung and Bronchus	34.8	-2.8*
Colon and Rectum	15.6	-1.4
Liver & IBD[g]	10.6	2.2*
Pancreas	8.9	0.5
Breast	8.0	-1.0
Prostate[f]	7.8	-0.7
Kidney and Renal Pelvis	5.7	-2.5*
Stomach	5.0	-1.5
Non-Hodgkin Lymphoma	4.4	-0.6
Leukemia	4.1	-3.3*
Esophagus	3.5	0.7
Ovary[f]	3.5	-1.3
Myeloma	3.1	1.3
Urinary Bladder	2.4	0.8
Brain and ONS[g]	2.4	-2.2

Hispanic[e]

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	113.5	-1.2*
Lung and Bronchus	18.3	-2.7*
Colon and Rectum	11.2	-2.1*
Liver & IBD[g]	9.3	1.3*
Pancreas	8.5	-0.2
Breast	7.9	-0.8*
Prostate[f]	6.4	-2.4*
Stomach	5.1	-2.0*
Non-Hodgkin Lymphoma	4.8	-1.9*
Leukemia	4.7	-0.8
Kidney and Renal Pelvis	3.5	-0.5
Brain and ONS[g]	3.0	0.9*
Ovary[f]	2.9	-2.0*
Myeloma	2.8	-0.2
Urinary Bladder	2.3	-0.7
Corpus and Uterus, NOS[f]	2.1	2.6*

Source: US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.
[a] Top 15 cancer sites selected based on 2012-2016 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] 2012-2016	APC[c] 2007-2016
All Sites	193.1	-1.8*
Lung and Bronchus	51.6	-3.5*
Prostate	19.2	-2.7*
Colon and Rectum	16.9	-2.4*
Pancreas	12.6	0.1
Liver & IBD[f]	9.6	2.2*
Leukemia	8.8	-1.5*
Urinary Bladder	7.6	-0.3*
Non-Hodgkin Lymphoma	7.3	-2.1*
Esophagus	7.1	-1.1*
Kidney and Renal Pelvis	5.5	-0.8*
Brain and ONS[f]	5.4	0.6*
Stomach	4.2	-2.4*
Myeloma	4.2	-0.6*
Oral Cavity and Pharynx	3.9	0.6*
Melanoma of the Skin	3.7	-2.0*

White

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	193.0	-1.6*
Lung and Bronchus	51.7	-3.4*
Prostate	18.0	-2.5*
Colon and Rectum	16.5	-2.3*
Pancreas	12.6	0.2*
Leukemia	9.1	-1.4*
Liver & IBD[f]	8.9	2.4*
Urinary Bladder	8.0	-0.2
Non-Hodgkin Lymphoma	7.6	-2.0*
Esophagus	7.5	-0.6*
Brain and ONS[f]	5.8	0.7*
Kidney and Renal Pelvis	5.7	-0.7*
Melanoma of the Skin	4.3	-1.7*
Myeloma	4.0	-0.5*
Oral Cavity and Pharynx	3.8	1.0*
Stomach	3.7	-2.4*

Black

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	233.5	-2.8*
Lung and Bronchus	62.1	-4.0*
Prostate	38.9	-4.2*
Colon and Rectum	23.8	-2.9*
Pancreas	14.8	-0.4
Liver & IBD[f]	13.2	1.5*
Stomach	8.2	-3.1*
Myeloma	7.4	-0.8*
Leukemia	7.2	-2.2*
Esophagus	5.6	-5.3*
Kidney and Renal Pelvis	5.5	-0.9
Urinary Bladder	5.4	-0.1
Non-Hodgkin Lymphoma	5.2	-1.9*
Oral Cavity and Pharynx	4.7	-2.1*
Brain and ONS[f]	3.2	1.2
Larynx	3.1	-3.8*

Asian/Pacific Islander

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	118.6	-1.9*
Lung and Bronchus	30.2	-2.7*
Liver & IBD[f]	13.8	-0.9*
Colon and Rectum	11.6	-2.4*
Prostate	8.6	-2.5*
Pancreas	8.2	-0.4
Stomach	6.8	-3.7*
Non-Hodgkin Lymphoma	4.9	-1.3*
Leukemia	4.7	-1.1
Oral Cavity and Pharynx	3.1	1.3
Urinary Bladder	2.9	-0.1
Esophagus	2.7	-1.9*
Kidney and Renal Pelvis	2.7	-2.0*
Brain and ONS[f]	2.6	1.9*
Myeloma	2.0	-2.2*
Soft Tissue including Heart	1.0	0.3

American Indian/Alaska Native[d]

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	176.3	-1.2*
Lung and Bronchus	42.0	-3.4*
Prostate	19.2	-1.2
Colon and Rectum	19.1	0.7
Liver & IBD[f]	14.4	1.4
Pancreas	9.9	0.3
Kidney and Renal Pelvis	8.1	-2.1
Stomach	6.9	-1.2
Esophagus	6.2	1.3
Non-Hodgkin Lymphoma	5.8	2.2
Leukemia	5.4	-2.9
Urinary Bladder	3.9	-0.2
Oral Cavity and Pharynx	3.7	3.2
Myeloma	3.4	-1.2
Brain and ONS[f]	2.8	-0.9
Larynx	1.6	-

Hispanic[e]

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	138.1	-1.6*
Lung and Bronchus	25.3	-3.6*
Prostate	15.8	-2.8*
Colon and Rectum	14.4	-1.9*
Liver & IBD[f]	13.3	1.2*
Pancreas	9.4	-0.2
Stomach	6.5	-2.9*
Non-Hodgkin Lymphoma	6.1	-1.3*
Leukemia	6.0	-0.7
Kidney and Renal Pelvis	5.0	-0.5
Urinary Bladder	3.8	-1.0
Esophagus	3.7	-2.4*
Brain and ONS[f]	3.5	0.7
Myeloma	3.4	0.0
Oral Cavity and Pharynx	2.4	0.0
Larynx	1.5	-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 2012-2016 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] 2012-2016	APC[c] 2007-2016
All Sites	137.7	-1.4*
Lung and Bronchus	34.4	-2.3*
Breast	20.6	-1.5*
Colon and Rectum	11.9	-2.4*
Pancreas	9.6	0.1
Ovary	7.0	-2.3*
Leukemia	4.9	-1.5*
Corpus and Uterus, NOS	4.7	2.0*
Non-Hodgkin Lymphoma	4.4	-2.6*
Liver & IBD[f]	3.9	2.6*
Brain and ONS[f]	3.6	0.6*
Myeloma	2.7	-0.4
Kidney and Renal Pelvis	2.3	-1.6*
Cervix Uteri	2.3	-0.6*
Stomach	2.3	-1.8*
Urinary Bladder	2.1	-0.6*

White

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	138.3	-1.3*
Lung and Bronchus	35.6	-2.2*
Breast	20.1	-1.5*
Colon and Rectum	11.7	-2.2*
Pancreas	9.4	0.1
Ovary	7.3	-2.3*
Leukemia	5.1	-1.3*
Non-Hodgkin Lymphoma	4.5	-2.6*
Corpus and Uterus, NOS	4.4	1.8*
Brain and ONS[f]	3.9	0.6*
Liver & IBD[f]	3.7	2.8*
Kidney and Renal Pelvis	2.4	-1.4*
Myeloma	2.4	-0.5
Urinary Bladder	2.2	-0.4
Cervix Uteri	2.2	0.1
Stomach	2.0	-1.6*

Black

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	156.0	-1.6*
Lung and Bronchus	32.4	-2.5*
Breast	28.1	-1.6*
Colon and Rectum	15.5	-3.1*
Pancreas	12.2	-0.5*
Corpus and Uterus, NOS	8.5	2.2*
Ovary	6.1	-1.6*
Myeloma	5.4	-0.3
Liver & IBD[f]	4.7	2.6*
Leukemia	4.4	-1.6*
Stomach	3.8	-3.6*
Cervix Uteri	3.5	-3.1*
Non-Hodgkin Lymphoma	3.3	-1.3*
Urinary Bladder	2.4	-1.4*
Kidney and Renal Pelvis	2.3	-2.5*
Brain and ONS[f]	2.1	0.6

Asian/Pacific Islander

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	86.6	-1.0*
Lung and Bronchus	17.3	-1.3*
Breast	11.2	-0.1
Colon and Rectum	8.4	-2.3*
Pancreas	7.1	0.0
Liver & IBD[f]	5.8	-0.9
Ovary	4.4	-0.9
Stomach	4.2	-2.9*
Non-Hodgkin Lymphoma	3.1	-1.5*
Corpus and Uterus, NOS	3.1	2.8*
Leukemia	2.8	-2.4*
Brain and ONS[f]	1.9	4.5*
Cervix Uteri	1.7	-1.1
Myeloma	1.2	-1.2
Oral Cavity and Pharynx	1.2	0.3
Kidney and Renal Pelvis	1.1	-2.1

American Indian/Alaska Native[d]

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	124.9	-1.5*
Lung and Bronchus	29.4	-2.3*
Breast	14.3	-0.7
Colon and Rectum	13.0	-3.4*
Pancreas	8.0	0.5
Liver & IBD[f]	7.4	2.9
Ovary	6.3	-0.8
Kidney and Renal Pelvis	3.8	-3.3
Stomach	3.6	-1.5
Corpus and Uterus, NOS	3.5	0.5
Non-Hodgkin Lymphoma	3.3	-3.6
Leukemia	3.0	-4.4
Myeloma	2.8	3.6
Cervix Uteri	2.8	-4.4*
Brain and ONS[f]	2.1	-2.3
Gallbladder	1.6	-1.2

Hispanic[e]

	Rate[b] 2012-2016	APC[c] 2007-2016
All Sites	96.2	-0.9*
Breast	14.2	-0.7*
Lung and Bronchus	13.1	-1.6*
Colon and Rectum	8.8	-2.3*
Pancreas	7.7	-0.1
Liver & IBD[f]	6.0	1.4*
Ovary	5.2	-1.8*
Stomach	4.0	-1.0*
Corpus and Uterus, NOS	3.9	2.8*
Leukemia	3.8	-0.9
Non-Hodgkin Lymphoma	3.8	-2.7*
Cervix Uteri	2.6	-1.2*
Brain and ONS[f]	2.6	1.1
Myeloma	2.3	-0.6
Kidney and Renal Pelvis	2.3	-0.8
Urinary Bladder	1.2	-0.1

Source: US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention.
[a] Top 15 cancer sites selected based on 2012-2016 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.

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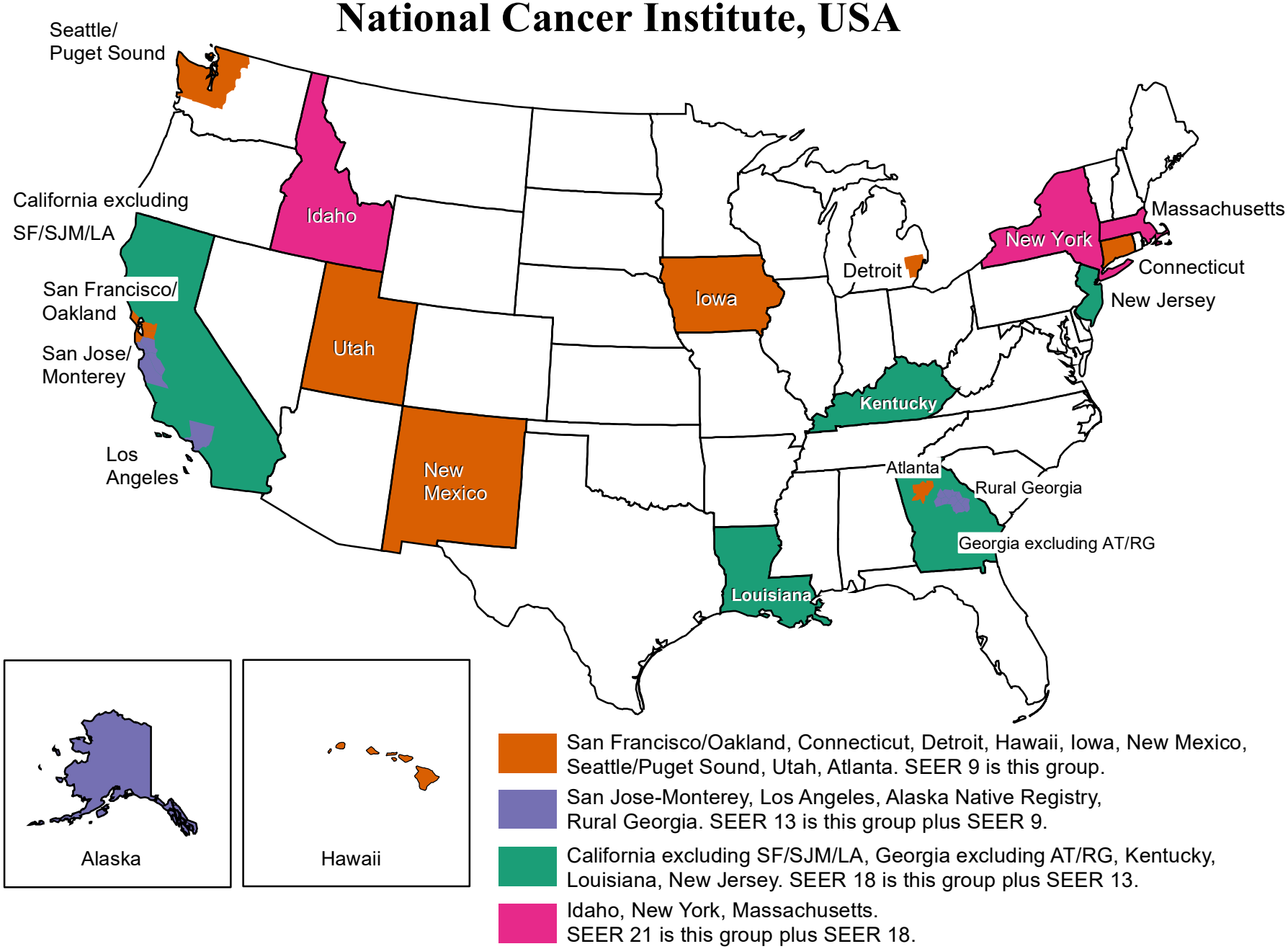
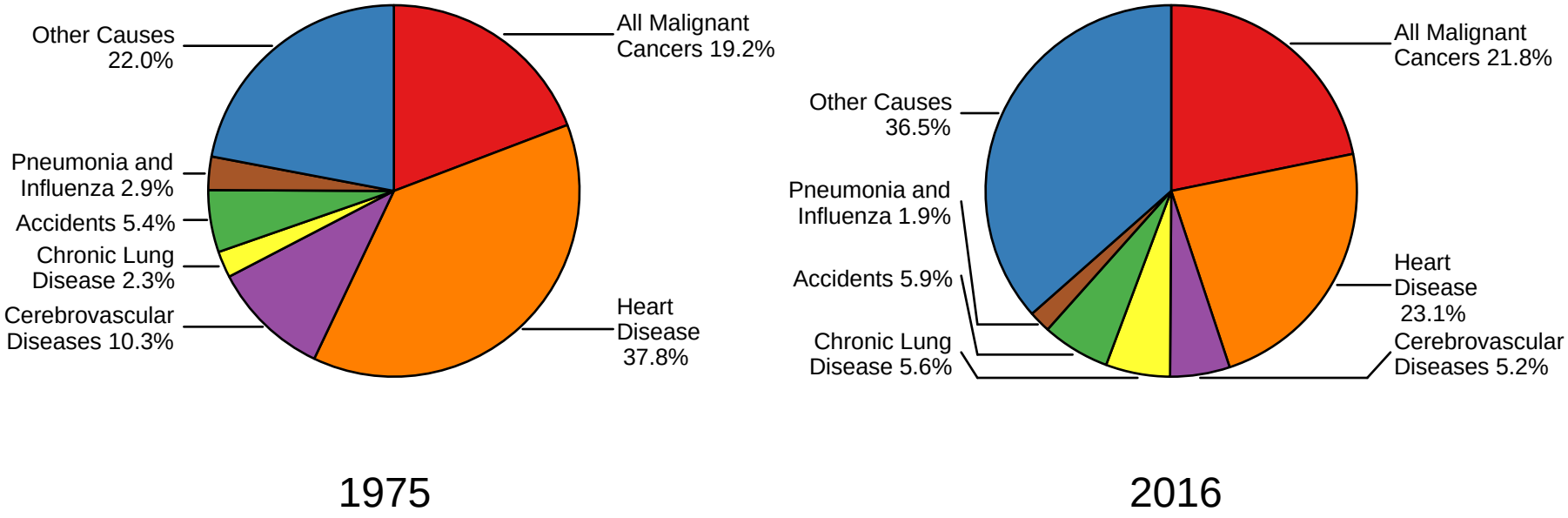


Figure 1.1

http://seer.cancer.gov

Figure 1.2

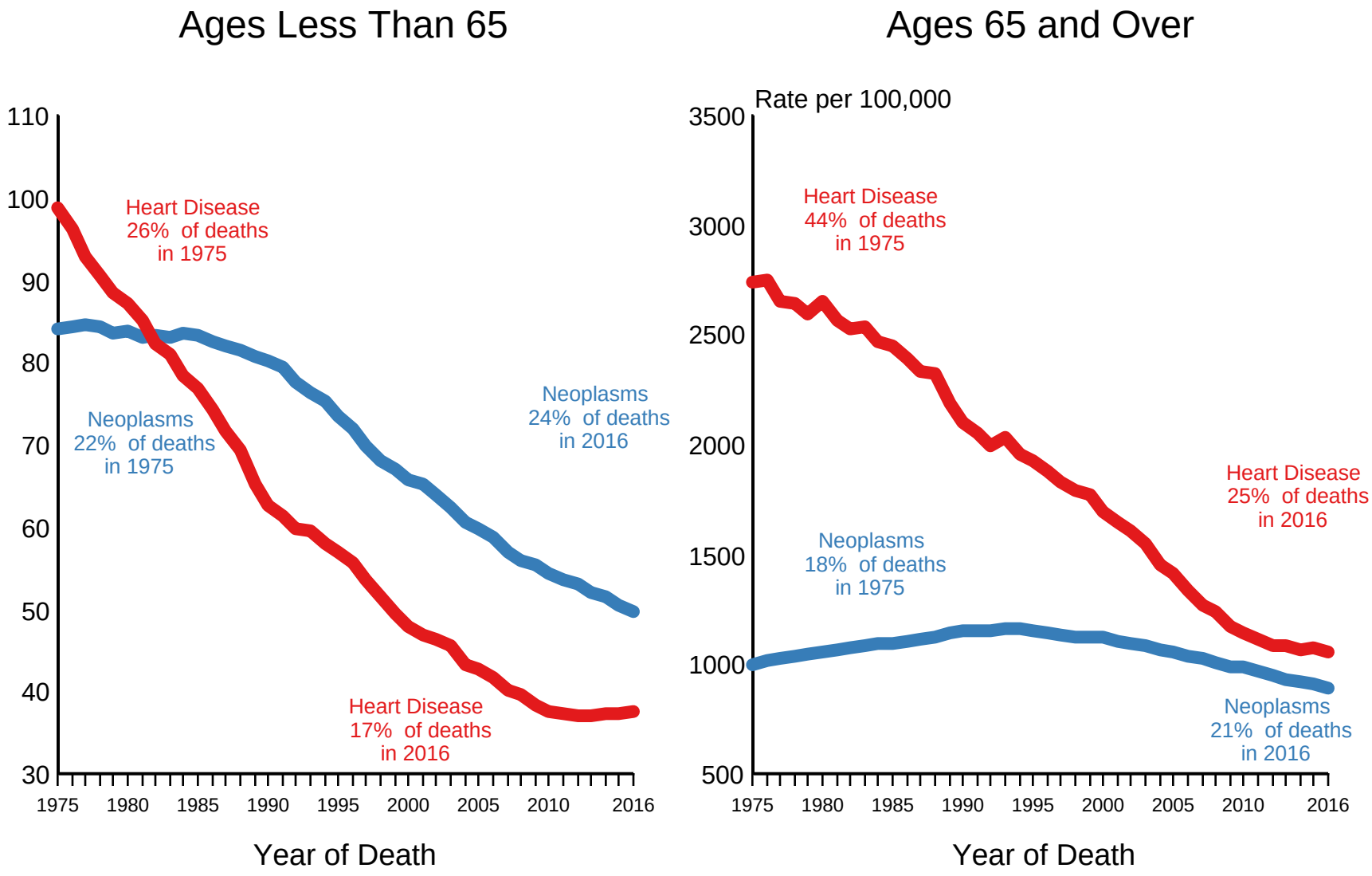
Leading Causes of Death in US, 1975 vs 2016
Percent of All Causes of Death



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

Figure 1.3

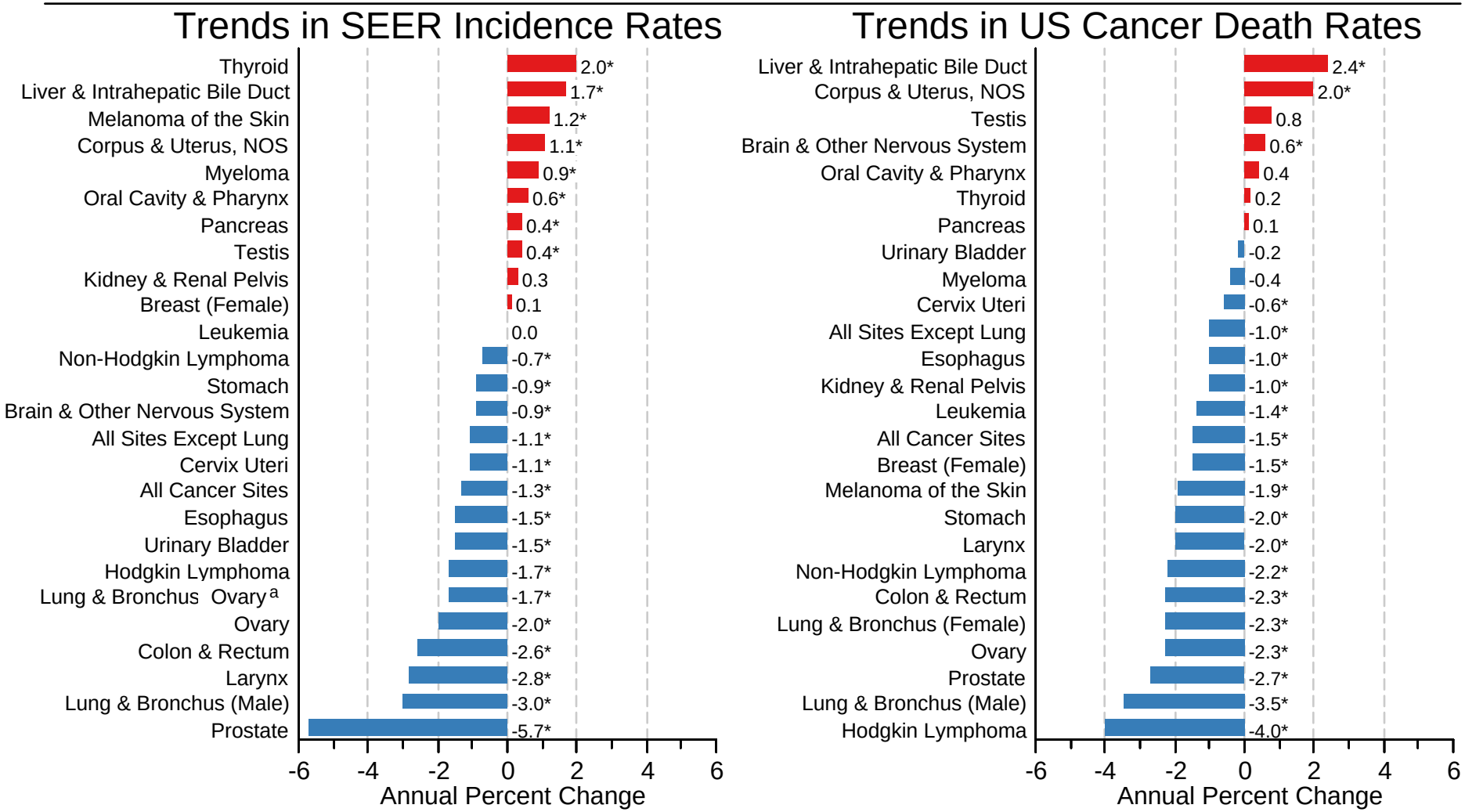
Us Death Rates, 1975-2016
Heart Disease compared to Neoplasms, by age at death



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 2007-2016



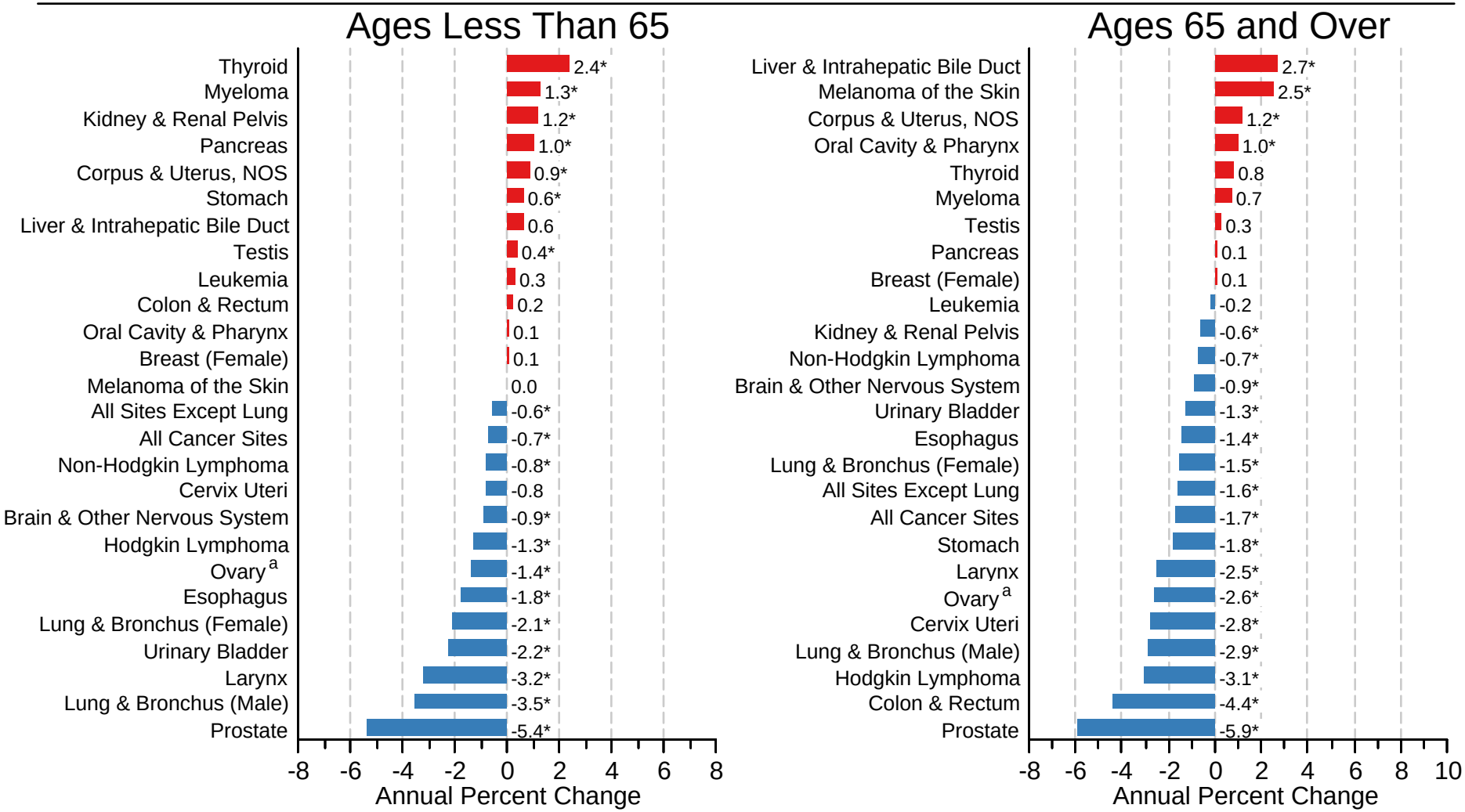
Source: SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts) 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 2007-2016



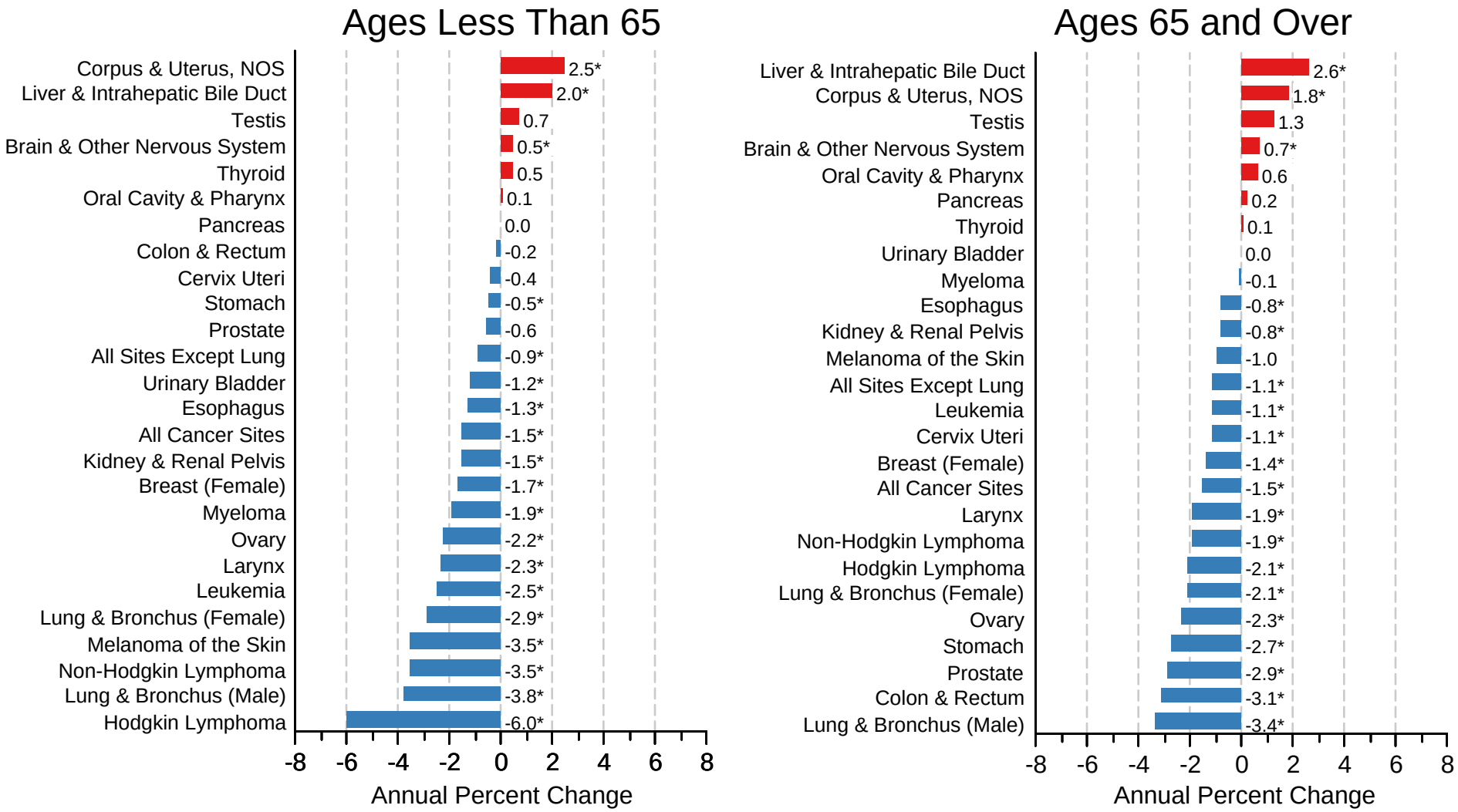
Source: SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).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

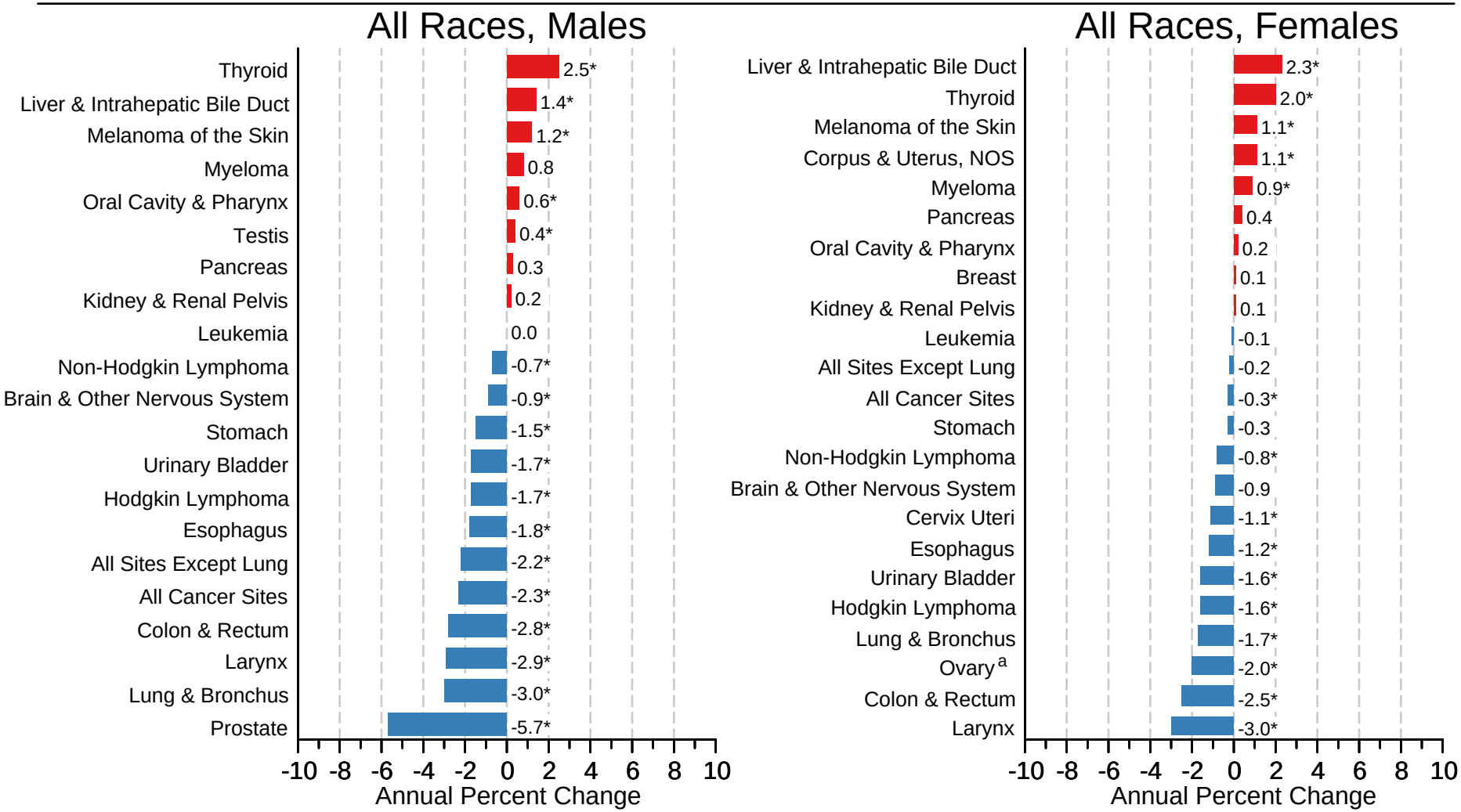
Trends in US Death Rates by Age Group and Primary Cancer Site 2007-2016



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 2007-2016



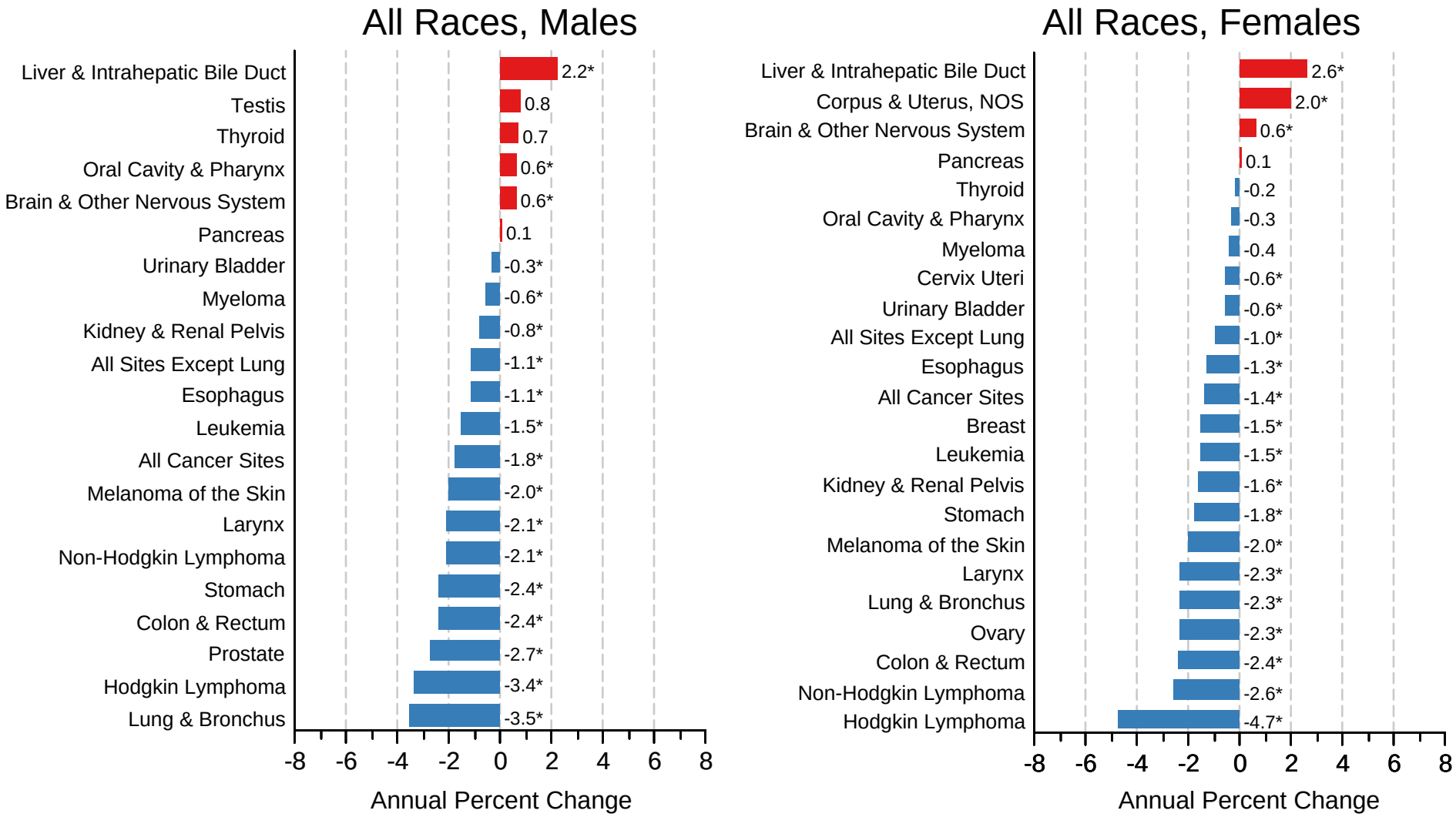
Source: SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts).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

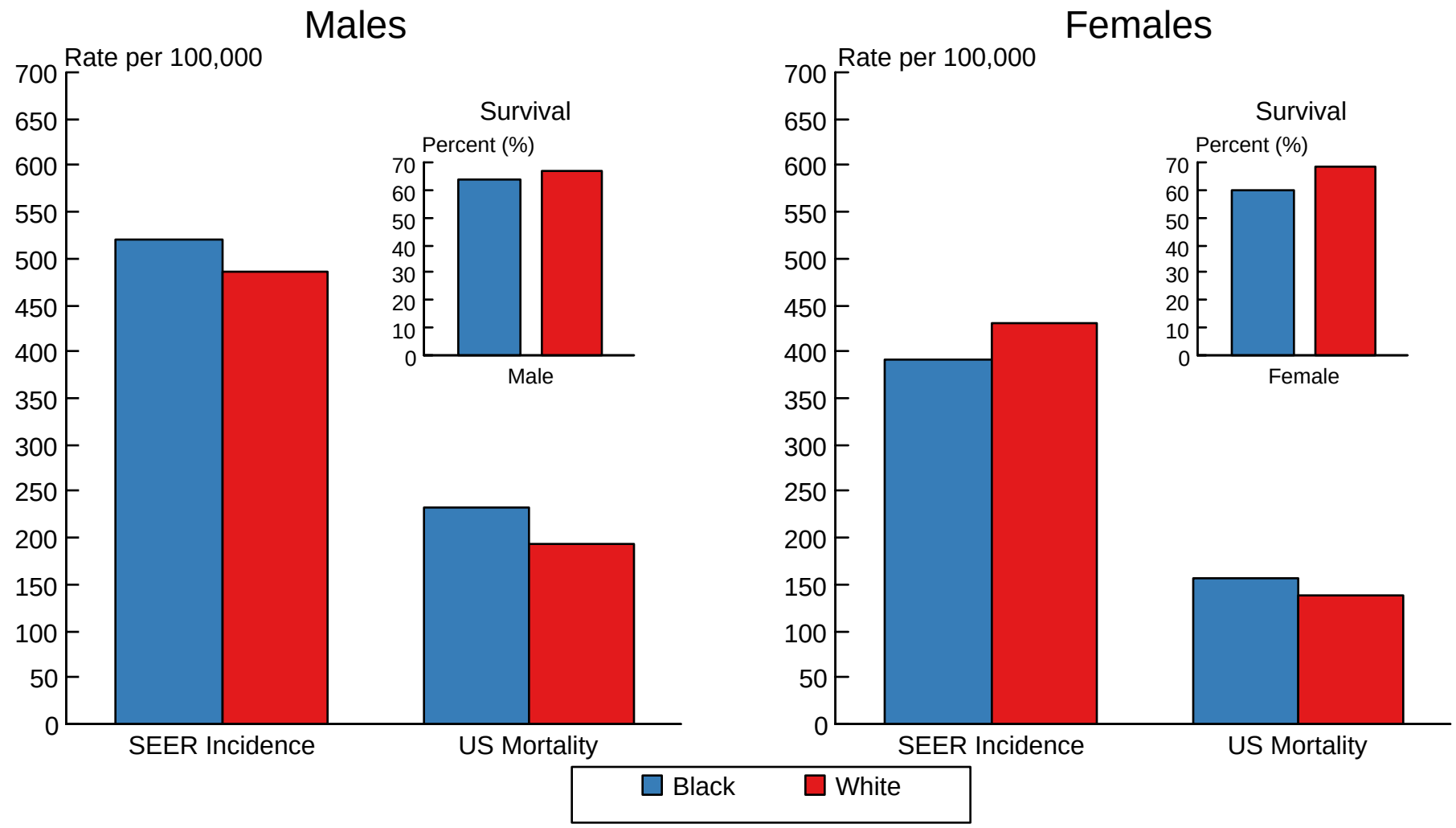
Trends in US Death Rates by Sex and Primary Cancer Site 2007-2016



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] 2012-2016
5-Year Relative Survival,[c] 2009-2015
All Cancer Combined, by Race and Sex

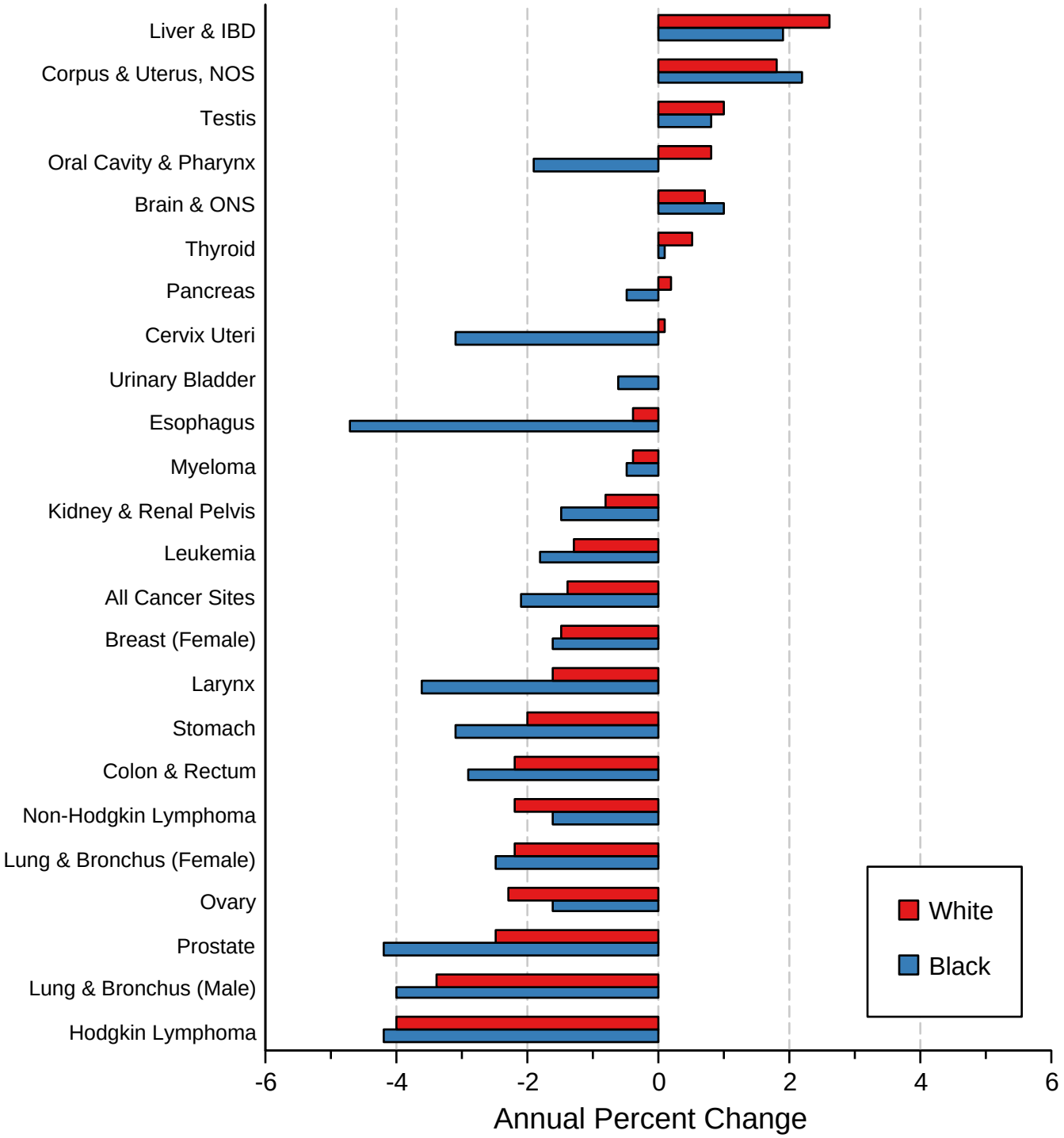


[a] Incidence rates are from the SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry,Rural Georgia,California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho,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

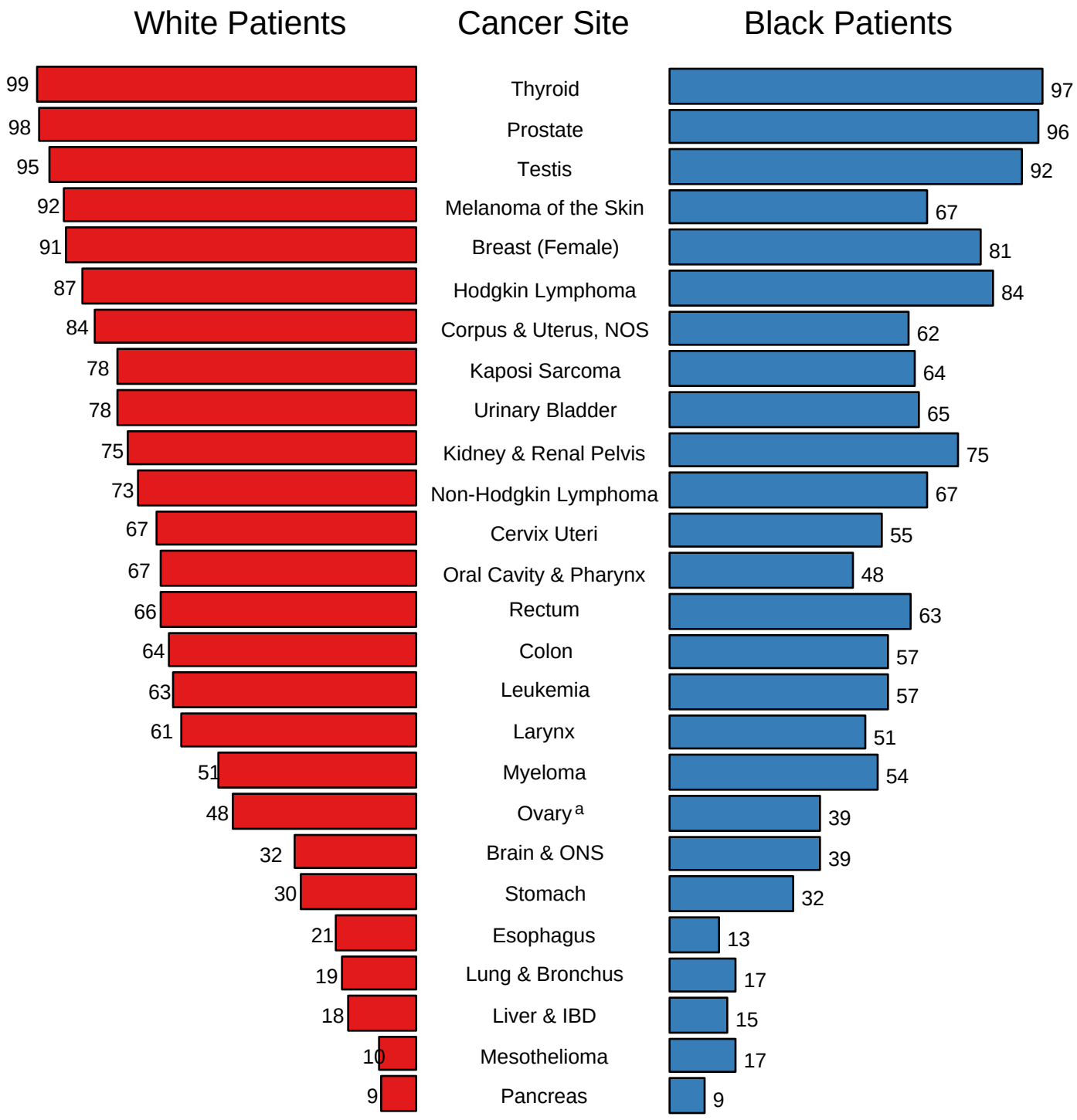
[c] Survival rates are from the SEER 18 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey and Georgia excluding ATL/RG).

Trends in US Death Rates, 2007-2016
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).

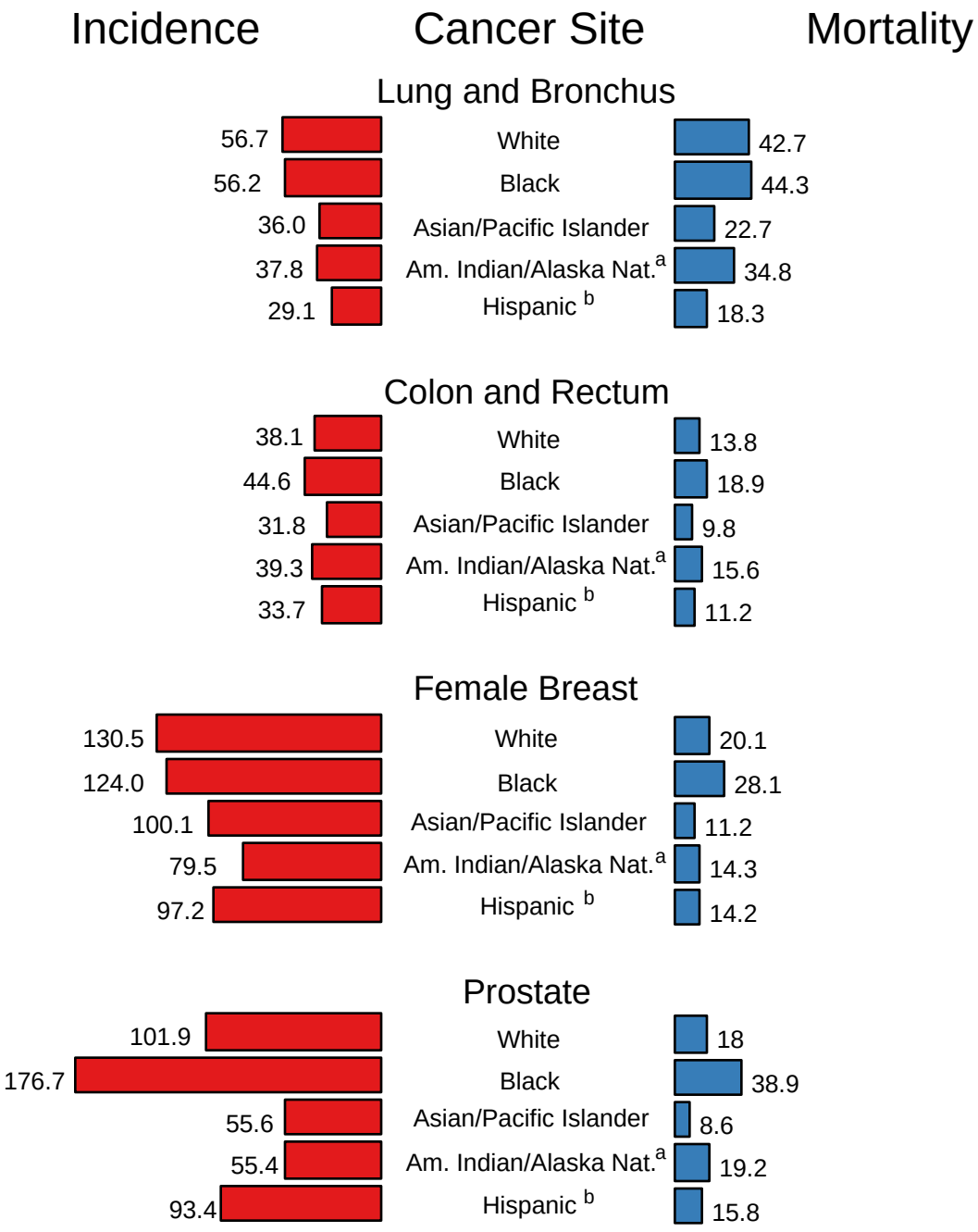
5-Year Relative Survival (%)
SEER Program, 2009-2015
Both Sexes, by Race and Cancer Site



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, 2012-2016
By Cancer Site and Race/Ethnicity



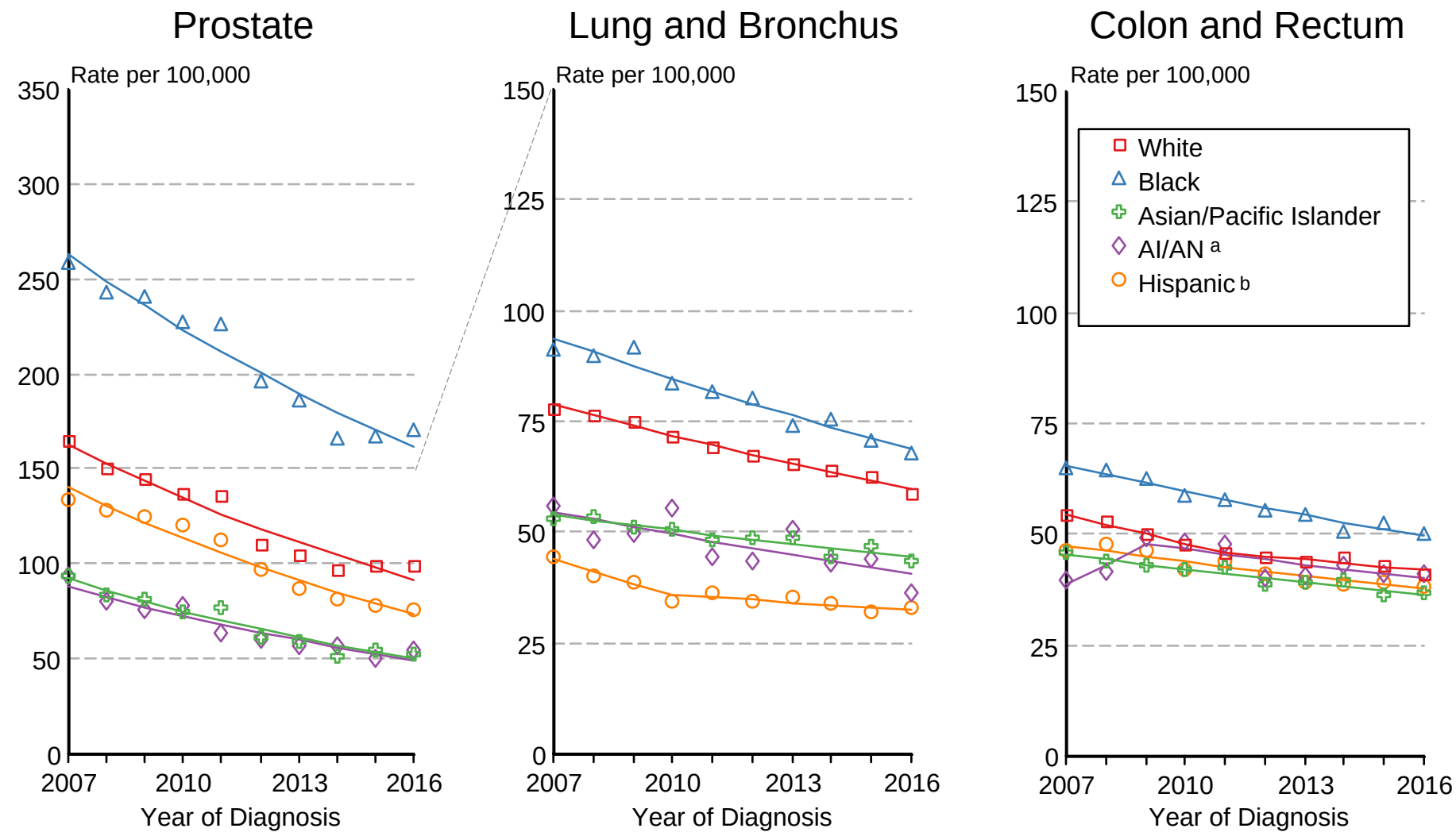
Source: SEER 21 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, Atlanta, San Jose-Monterey, Los Angeles, Alaska Native Registry, Rural Georgia, California excluding SF/SJM/LA, Kentucky, Louisiana, New Jersey, Georgia excluding ATL/RG, Idaho, New York and Massachusetts)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

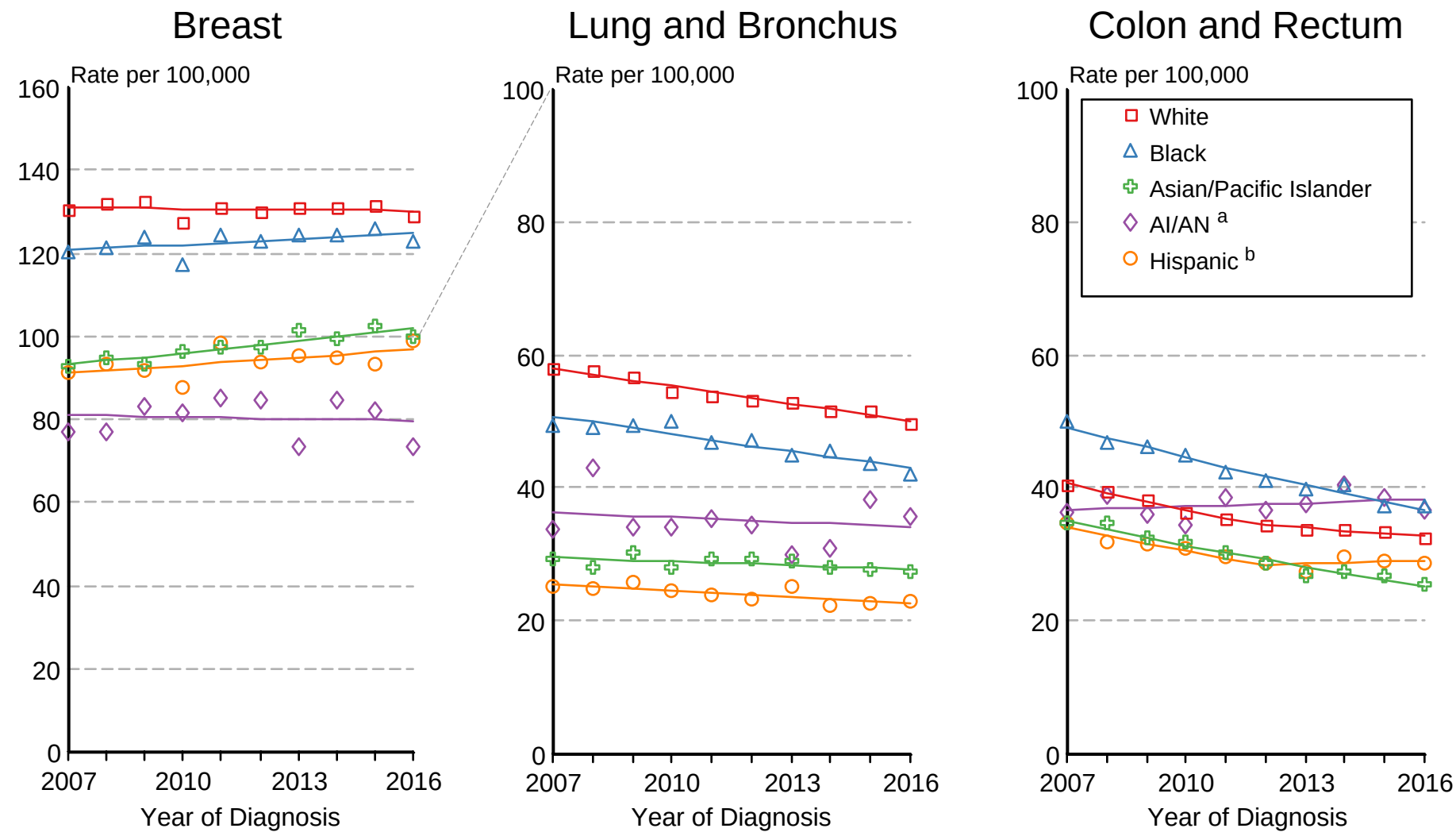
SEER Incidence 2007-2016
Males by Race/Ethnicity



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 4.7, February 2019, 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

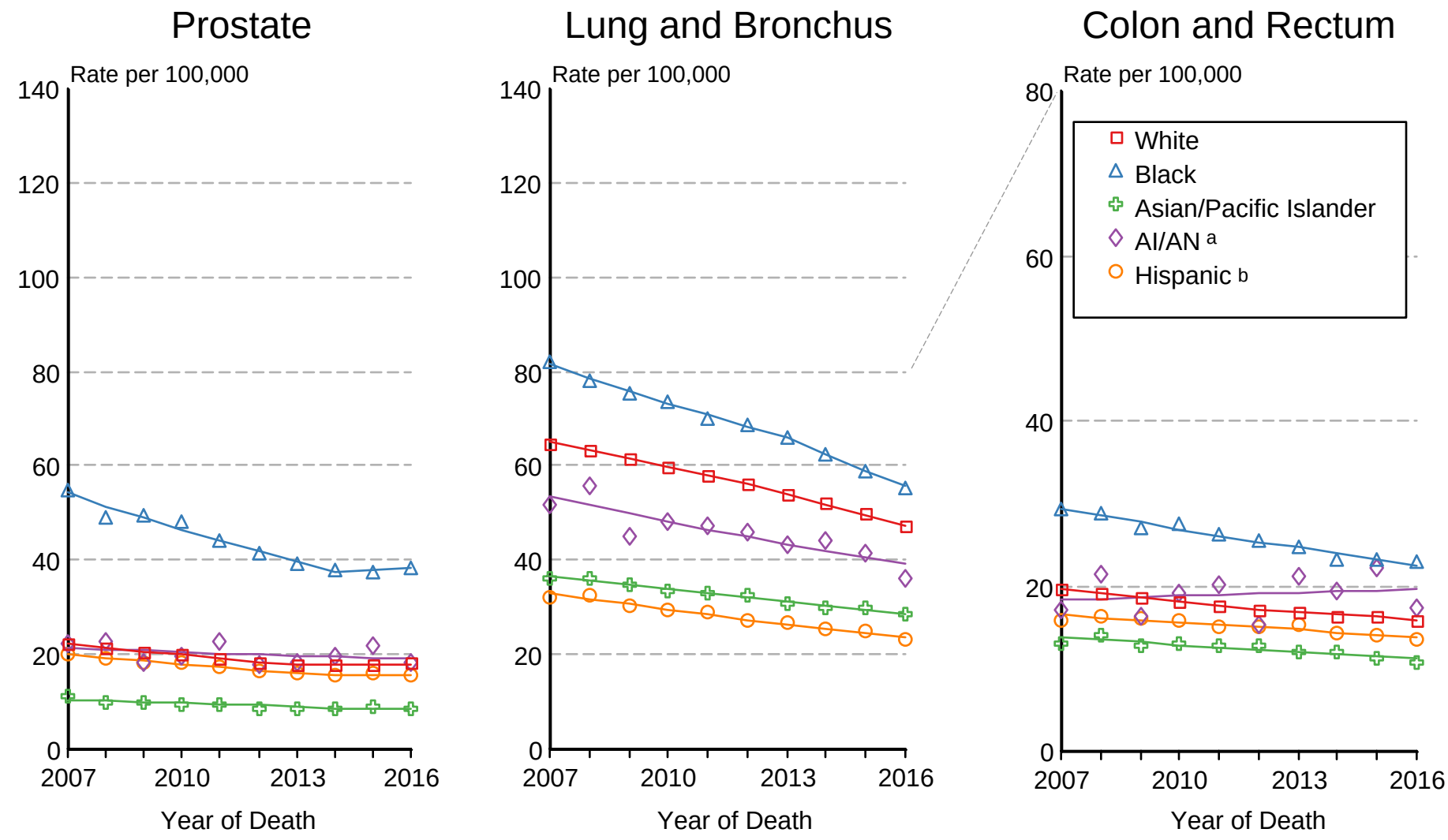
SEER Incidence 2007-2016
Females by Race/Ethnicity



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 4.7, February 2019, 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

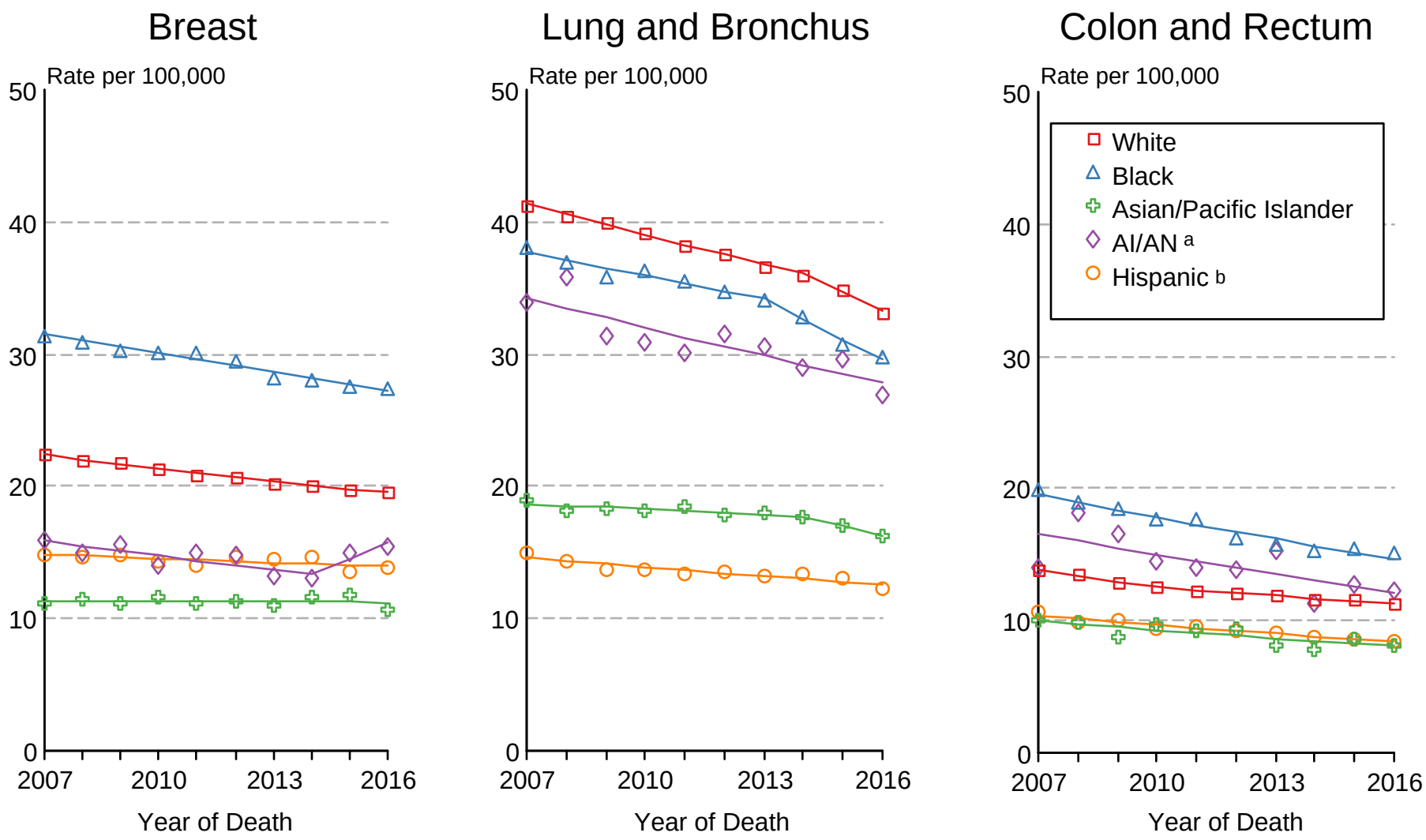
US Mortality 2007-2016
Males by Race/Ethnicity



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 4.7, February 2019, 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

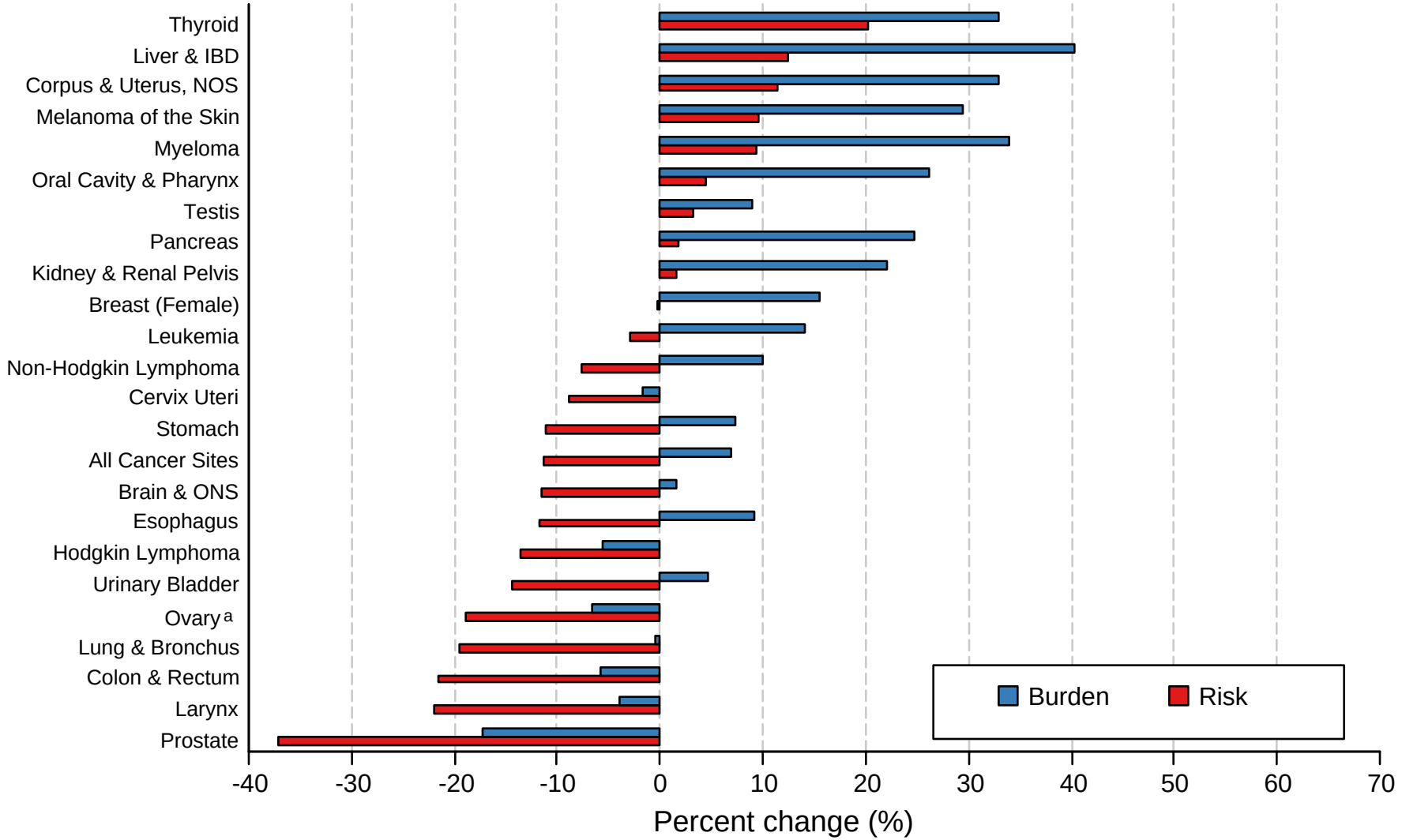
US Mortality 2007-2016
Females by Race/Ethnicity



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 4.7, February 2019, 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

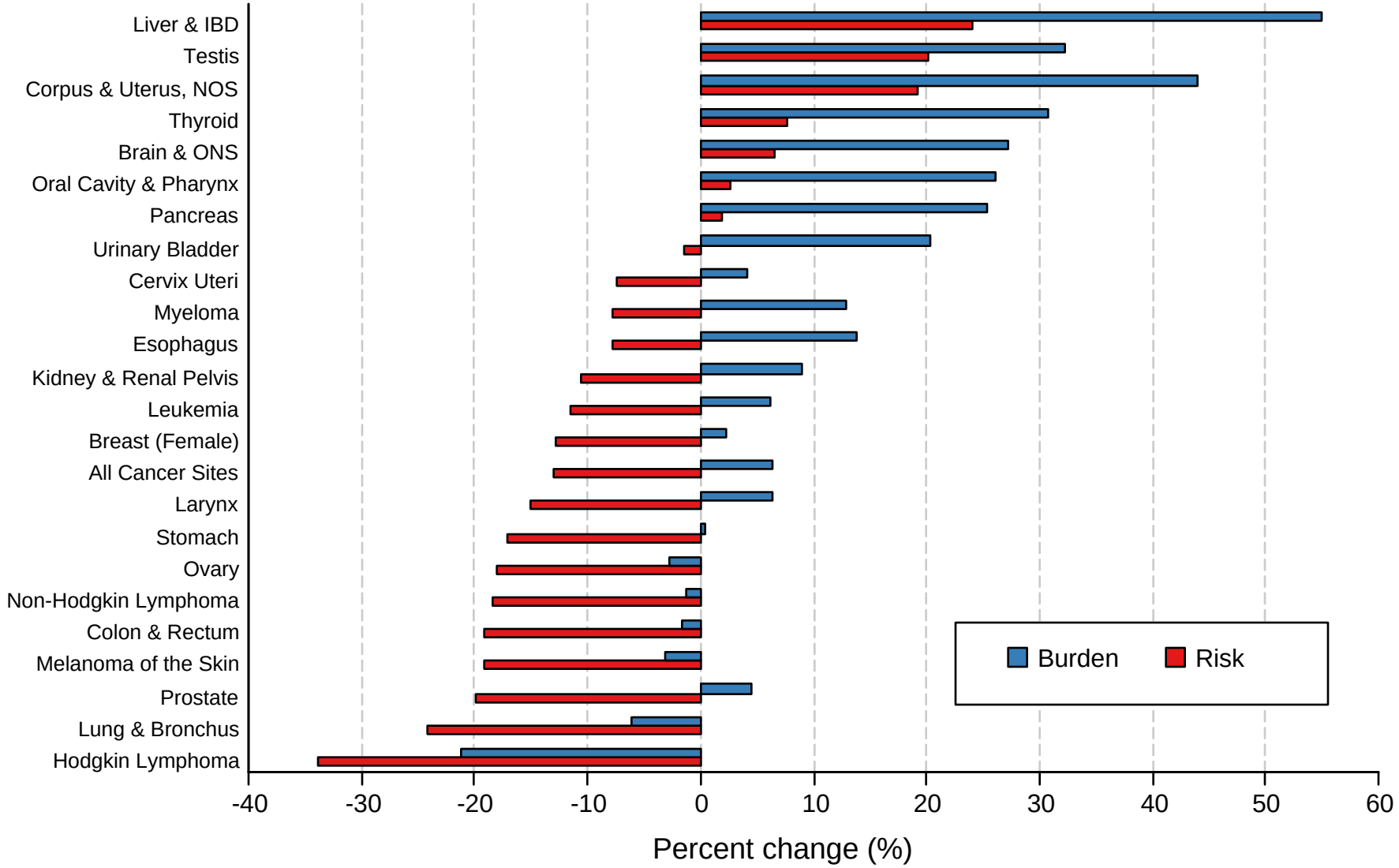
Incidence Percent Change between 2007 and 2016
Numbers (burden) vs Rates (risk)
All Races, All Ages, Both Sexes



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 2007 and 2016.
[a] Ovary excludes borderline cases or histologies 8442, 8451, 8462, 8472, and 8473.

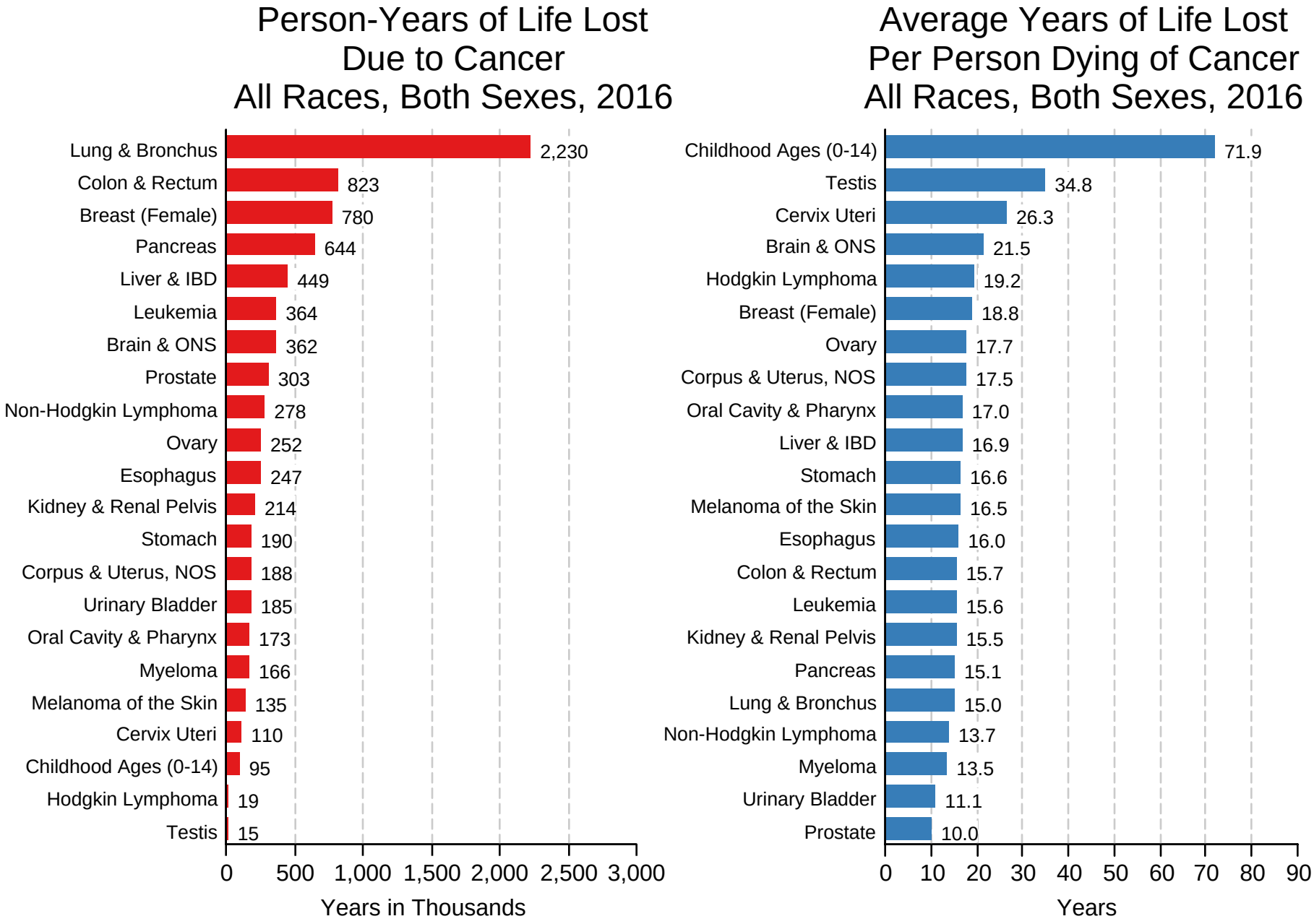
Figure 1.18

Mortality Percent Change between 2007 and 2016
Numbers (burden) vs Rates (risk)
All Races, All Ages, Both Sexes

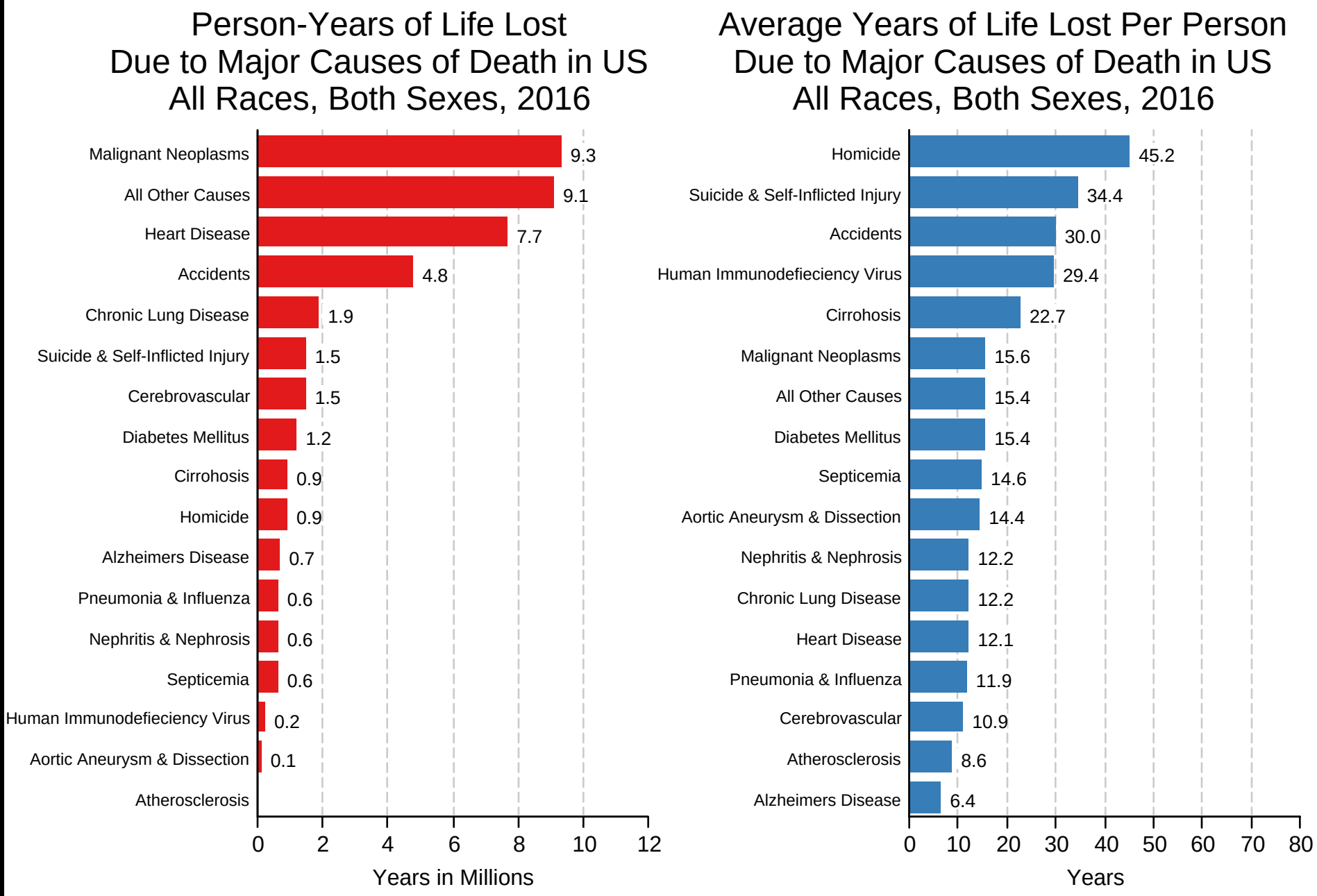


US Mortality estimates based on US age-specific rates applied to US population.
Burden is the change in the number of deaths between 2007 and 2016.
Risk is the change in the cancer death rates between 2007 and 2016.

Figure 1.19



Source: US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention and 2015 Life Tables.



Source: US Mortality Files, National Center for Health Statistics, Centers for Disease Control and Prevention and 2015 Life Tables.