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Cancer statistics, 2023

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Abstract

Each year, the American Cancer Society estimates the numbers of new cancer cases and deaths in the United States and compiles the most recent data on population-based cancer occurrence and outcomes using incidence data collected by central cancer registries and mortality data collected by the National Center for Health Statistics. In 2023, 1,958,310 new cancer cases and 609,820 cancer deaths are projected to occur in the United States. Cancer incidence increased for prostate cancer by 3% annually from 2014 through 2019 after two decades of decline, translating to an additional 99,000 new cases; otherwise, however, incidence trends were more favorable in men compared to women. For example, lung cancer in women decreased at one half the pace of men (1.1% vs. 2.6% annually) from 2015 through 2019, and breast and uterine corpus cancers continued to increase, as did liver cancer and melanoma, both of which stabilized in men aged 50 years and older and declined in younger men. However, a 65% drop in cervical cancer incidence during 2012 through 2019 among women in their early 20s, the first cohort to receive the human papillomavirus vaccine, foreshadows steep reductions in the burden of human papillomavirus-associated cancers, the majority of which occur in women. Despite the pandemic, and in contrast with other leading causes of death, the cancer death rate continued to decline from 2019 to 2020 (by 1.5%), contributing to a 33% overall reduction since 1991 and an estimated 3.8 million deaths averted. This progress increasingly reflects advances in treatment, which are particularly evident in the rapid declines in mortality (approximately 2% annually during 2016 through 2020) for leukemia, melanoma, and kidney cancer, despite stable/increasing incidence, and accelerated declines for lung cancer. In summary, although cancer mortality rates continue to decline, future progress may be attenuated by rising incidence for breast, prostate, and uterine corpus cancers, which also happen to have the largest racial disparities in mortality.

KEYWORDS
cancer cases, cancer statistics, death rates, incidence, mortality

INTRODUCTION

Cancer is a major public health problem worldwide and is the second leading cause of death in the United States. The coronavirus disease 2019 (COVID-19) pandemic caused delays in the diagnosis and treatment of cancer because of health care setting closures, disruptions in employment and health insurance, and fear of COVID-19 exposure. Although the impact was largest during the COVID-19 peak in mid-2020, the provision of health care has not fully rebounded. For example, surgical oncology procedures at Massachusetts General Hospital were 72% of 2019 levels during the last one half of 2020 and were only 84% in 2021, the lowest recovery of any surgical specialty.[1] Delays in diagnosis and treatment may lead to an uptick in advanced-stage disease and mortality.[2] These and other secondary consequences of the pandemic will occur gradually over time and will require many years to quantify at the population level because of the 2-year to 3-year lag in population-based cancer incidence and mortality data. However, what is already well established is the disproportionate direct and indirect impact of the pandemic on communities of color.[3,4]

In this article, we provide the estimated numbers of new cancer cases and deaths in 2023 in the United States nationally and for each state, as well as a comprehensive overview of cancer occurrence based on up-to-date population-based data for cancer incidence and mortality. We also estimate the total number of cancer deaths averted through 2020 because of the continuous decline in cancer death rates since the early 1990s.

MATERIALS AND METHODS

Data sources

Population-based cancer incidence data in the United States have been collected by the National Cancer Institute's (NCI) Surveillance, Epidemiology, and End Results (SEER) program since 1973 and by the Centers for Disease Control and Prevention's National Program of Cancer Registries (NPCR) since 1995. The SEER program is the only source for historic, population-based cancer incidence (1975–2019), which is currently based on data from the eight oldest SEER areas (Connecticut, Hawaii, Iowa, New Mexico, Utah, and the metropolitan areas of Atlanta, San Francisco–Oakland, and Seattle–Puget Sound) and represent approximately 8% of the US population.[5] Historic survival data (1975–1977 and 1995–1997) are based on the SEER 8 areas plus the Detroit metropolitan area,[6] as published previously. Contemporary survival statistics (2012–2018) were based on data from the 17 SEER registries (SEER 8 plus the Alaska Native Tumor Registry and the California, Georgia, Kentucky, Louisiana, and New Jersey registries), representing 27% of the US population.[7,8] All 22 SEER registries (SEER 17 plus Idaho, Illinois, Massachusetts, New York, and Texas), covering 48% of the United States, were the source for the probability of developing cancer, which was obtained using the NCI's DevCan software, version 6.8.0.[9]

The North American Association of Central Cancer Registries (NAACCR) compiles and reports incidence data from 1995 forward for registries that participate in the SEER program and/or the NPCR and achieve high-quality data standards. These data approach 100% coverage of the US population for the most recent years and were the source for the projected new cancer cases in 2023, contemporary incidence trends (1998–2019) and cross-sectional incidence rates (2015–2019), and stage distribution (2015–2019).[10] The incidence rates presented herein differ slightly from those published in *Cancer in North America: 2015–2019* because of the use of 19 versus 20 age groups, respectively, for age adjustment.[11,12]

Mortality data from 1930 to 2020 were provided by the National Center for Health Statistics (NCHS).[13,14] Forty-seven states and the District of Columbia met data quality requirements for reporting to the national vital statistics system in 1930, and Texas, Alaska, and Hawaii began reporting in 1933, 1959, and 1960, respectively. The methods for abstraction and age adjustment of historic mortality data are described elsewhere.[14,15] Contemporary 5-year mortality rates for Puerto Rico were obtained from the NCI and the Centers for Disease Control and Prevention joint website, State Cancer Profiles (statecancerprofiles.cancer.gov).

All cancer cases were classified according to the *International Classification of Diseases for Oncology* except childhood and adolescent cancers, which were classified according to the *International Classification of Childhood Cancer*.[16–18] Causes of death were classified according to the *International Classification of Diseases*.[19]

Statistical analysis

All incidence and death rates were age standardized to the 2000 US standard population (19 age groups) and expressed per 100,000 persons (or per million for childhood cancer incidence), as calculated using the NCI's SEER*Stat software, version 8.4.0.[20] The annual percent change in rates was quantified using the NCI's Joinpoint Regression software program (version 4.9.1.0).[21] Trends were described as increasing or decreasing when the annual percent change was statistically significant based on a 2-sided p value $< .05$ and otherwise were described as stable. All statistics presented herein by race, including those for Asian American/Pacific Islander (AAPI) and American Indian/Alaska Native (AIAN) individuals, are exclusive of Hispanic ethnicity for improved accuracy of classification. Racial misclassification for AIAN individuals has been further reduced by restricting incidence rates to Purchased/Referred Care Delivery Area counties and adjusting mortality rates (for the entire United States) using classification ratios previously published by the NCHS.[22] Life tables by Hispanic ethnicity were published in 2018 and were used for relative survival comparisons between White and Black individuals.[23]

Whenever possible, cancer incidence rates were adjusted for delays in reporting, which occur because of lags in case capture and

data corrections. Delay adjustment provides the most accurate portrayal of contemporary cancer rates and thus is particularly important in trend analysis.[24] It has the largest effect on the most recent data years for cancers that are frequently diagnosed in outpatient settings (e.g., melanoma, leukemia, and prostate cancer). For example, the leukemia incidence rate for 2019 was 13% higher after adjusting for reporting delays (14.9 vs. 13.2 per 100,000 persons).[25]

Projected cancer cases and deaths in 2023

The most recent year for which incidence and mortality data are available lags 2–4 years behind the current year because of the time required for data collection, compilation, quality control, and dissemination. Therefore, we project the numbers of new cancer cases and deaths in the United States in 2023 to estimate the contemporary cancer burden using two-step statistical modeling, as described in detail elsewhere.[26,27] Briefly, complete cancer diagnoses were estimated for every state from 2005 through 2019 based on delay-adjusted, high-quality incidence data from 50 states and the District of Columbia (99.7% population coverage; recent data were unavailable for Nevada) and state-level variations in sociodemographic and lifestyle factors, medical settings, and cancer screening behaviors.[28] Modeled state and national counts were then projected forward to 2023 using a novel, data-driven joinpoint algorithm.[27] Ductal carcinoma in situ of the female breast and in situ melanoma of the skin were estimated by approximating annual case counts from 2010 through 2019 based on NAACCR age-specific incidence rates, delay factors for invasive disease (delay factors are unavailable for in situ cases),[29] and US population estimates obtained using SEER*Stat software.[10,30] Counts were then projected four years ahead based on the average annual percent change generated by the joinpoint regression model.

The number of cancer deaths expected to occur in 2023 was estimated by applying the previously described data-driven joinpoint algorithm to reported cancer deaths from 2006 through 2020 at the state and national levels as reported by the NCHS.[27] Please note that the estimated cases for 2023 reported herein are based on currently available incidence data through 2019 and do not account for the impact of the COVID-19 pandemic on cancer diagnoses, whereas the projected cancer deaths in 2023 are based on data through 2020 and only account for the first year. In addition, basal cell and squamous cell skin cancers cannot be estimated because diagnoses are not recorded by most cancer registries.

Other statistics

The number of cancer deaths averted in men and women because of the reduction in cancer death rates since the early 1990s was estimated by summing the annual difference between the number of cancer deaths recorded and the number that would have been expected if cancer death rates had remained at their peak. The expected number of deaths was estimated by applying the 5-year age-specific and sex-specific cancer death rates in the peak year for age-standardized cancer death rates (1990 in men, 1991 in women) to the corresponding age-specific and sex-specific populations in subsequent years through 2020.

SELECTED FINDINGS

Expected number of new cancer cases

Table 1 presents the estimated numbers of new invasive cancer cases in the United States in 2023 by sex and cancer type. In total, there will be approximately 1,958,310 new cancer cases, the equivalent of about 5370 cases each day. In addition, there will be about 55,720 new cases of ductal carcinoma in situ in women and 89,070 new cases of melanoma in situ of the skin. The estimated numbers of new cases for selected cancers by state are shown in Table 2.

The lifetime probability of being diagnosed with invasive cancer is slightly higher for men (40.9%) than for women (39.1%; Table 3). Higher risk in men for most cancer types is thought to largely reflect greater exposure to carcinogenic environmental and behavioral factors, such as smoking, although a recent study suggests that other differences also play a large role.[31] These may include height,[32,33] endogenous hormone exposure, and immune function and response.[34]

Figure 1 depicts the most common cancers diagnosed in men and women in 2023. Prostate, lung and bronchus (hereinafter lung), and colorectal cancers (CRCs) account for almost one half (48%) of all incident cases in men, with prostate cancer alone accounting for 29% of diagnoses. For women, breast cancer, lung cancer, and CRC account for 52% of all new diagnoses, with breast cancer alone accounting for 31% of female cancers.

Expected number of cancer deaths

An estimated 609,820 people in the United States will die from cancer in 2023, corresponding to 1670 deaths per day (Table 1). The greatest number of deaths are from cancers of the lung, prostate, and colorectum in men and cancers of the lung, breast, and colorectum in women (Figure 1). Table 4 provides the estimated number of deaths for these and other common cancers by state.

Approximately 350 people die each day from lung cancer—nearly 2.5 times more than the number of people who die from CRC, which is the second leading cause of cancer death overall. Approximately 103,000 of the 127,070 lung cancer deaths (81%) in 2023 will be caused by cigarette smoking directly, with an additional 3560 caused by second-hand smoke.[35] The remaining balance of approximately 20,500 nonsmoking-related lung cancer deaths would rank as the eighth leading cause of cancer death among the sexes combined if it was classified separately.

TABLE 1 Estimated new cancer cases and deaths by sex, United States, 2023[a]

	Estimated new cases			Estimated deaths		
Cancer site	**Both sexes**	**Male**	**Female**	**Both sexes**	**Male**	**Female**
All sites	1,958,310	1,010,310	948,000	609,820	322,080	287,740
Oral cavity & pharynx	54,540	39,290	15,250	11,580	8140	3440
Tongue	18,040	13,180	4860	2940	1950	990
Mouth	14,820	8680	6140	3090	1870	1220
Pharynx	20,070	16,340	3730	4140	3260	880
Other oral cavity	1610	1090	520	1410	1060	350
Digestive system	348,840	194,980	153,860	172,010	99,350	72,660
Esophagus	21,560	17,030	4530	16,120	12,920	3200
Stomach	26,500	15,930	10,570	11,130	6690	4440
Small intestine	12,070	6580	5490	2070	1170	900
Colon & rectum[b]	153,020	81,860	71,160	52,550	28,470	24,080
Colon	106,970	54,420	52,550			
Rectum	46,050	27,440	18,610			
Anus, anal canal, & anorectum	9760	3180	6580	1870	860	1010
Liver & intrahepatic bile duct	41,210	27,980	13,230	29,380	19,000	10,380
Gallbladder & other biliary	12,220	5750	6470	4510	1900	2610
Pancreas	64,050	33,130	30,920	50,550	26,620	23,930
Other digestive organs	8450	3540	4910	3830	1720	2110
Respiratory system	256,290	131,150	125,140	132,330	71,170	61,160
Larynx	12,380	9900	2480	3820	3070	750
Lung & bronchus	238,340	117,550	120,790	127,070	67,160	59,910
Other respiratory organs	5570	3700	1870	1440	940	500
Bones & joints	3970	2160	1810	2140	1200	940
Soft tissue (including heart)	13,400	7400	6000	5140	2720	2420
Skin (excluding basal & squamous)	104,930	62,810	42,120	12,470	8480	3990
Melanoma of the skin	97,610	58,120	39,490	7990	5420	2570
Other nonepithelial skin	7320	4690	2630	4480	3060	1420
Breast	300,590	2800	297,790	43,700	530	43,170
Genital system	414,350	299,540	114,810	69,660	35,640	34,020
Uterine cervix	13,960		13,960	4310		4310
Uterine corpus	66,200		66,200	13,030		13,030
Ovary	19,710		19,710	13,270		13,270
Vulva	6470		6470	1670		1670
Vagina & other female genital	8470		8470	1740		1740
Prostate	288,300	288,300		34,700	34,700	
Testis	9190	9190		470	470	
Penis & other male genital	2050	2050		470	470	
Urinary system	168,560	117,590	50,970	32,590	22,680	9910
Urinary bladder	82,290	62,420	19,870	16,710	12,160	4550
Kidney & renal pelvis	81,800	52,360	29,440	14,890	9920	4970
Ureter & other urinary organs	4470	2810	1660	990	600	390
Eye & orbit	3490	1900	1590	430	240	190

TABLE 1 (Continued)

Cancer site	Estimated new cases			Estimated deaths		
	Both sexes	Male	Female	Both sexes	Male	Female
Brain & other nervous system	24,810	14,280	10,530	18,990	11,020	7970
Endocrine system	47,230	14,340	32,890	3240	1560	1680
Thyroid	43,720	12,540	31,180	2120	970	1150
Other endocrine	3510	1800	1710	1120	590	530
Lymphoma	89,380	49,730	39,650	21,080	12,320	8760
Hodgkin lymphoma	8830	4850	3980	900	540	360
Non-Hodgkin lymphoma	80,550	44,880	35,670	20,180	11,780	8400
Myeloma	35,730	19,860	15,870	12,590	7000	5590
Leukemia	59,610	35,670	23,940	23,710	13,900	9810
Acute lymphocytic leukemia	6540	3660	2880	1390	700	690
Chronic lymphocytic leukemia	18,740	12,130	6610	4490	2830	1660
Acute myeloid leukemia	20,380	11,410	8970	11,310	6440	4870
Chronic myeloid leukemia	8930	5190	3740	1310	780	530
Other leukemia[c]	5020	3280	1740	5210	3150	2060
Other & unspecified primary sites[c]	32,590	16,810	15,780	48,160	26,130	22,030

Note: These are model-based estimates that should be interpreted with caution and not compared with those for previous years.

Source: Estimated new cases are based on 2005–2019 incidence data reported by the North American Association of Central Cancer Registries. Estimated deaths are based on 2006–2020 US mortality data reported by the National Center for Health Statistics, Centers for Disease Control and Prevention.

[a]Rounded to the nearest 10; cases exclude basal cell and squamous cell skin cancer and in situ carcinoma except urinary bladder. Approximately 55,720 cases of female breast ductal carcinoma in situ and 89,070 cases of melanoma in situ will be diagnosed in 2023.

[b]Includes appendiceal cancer; deaths for colon and rectal cancers are combined because a large number of deaths from rectal cancer are misclassified as colon cancer.

[c]More deaths than cases may reflect a lack of specificity in recording underlying cause of death on death certificates and/or an undercount in the case estimate.

Trends in cancer incidence

Figure 2 illustrates long-term trends in overall cancer incidence rates, which reflect both patterns in behaviors associated with cancer risk and changes in medical practice, such as the use of cancer screening tests. For example, the spike in incidence for males during the early 1990s reflects a surge in the detection of asymptomatic prostate cancer as a result of widespread rapid uptake of prostate-specific antigen (PSA) testing among previously unscreened men.[36] Thereafter, cancer incidence in men generally decreased until around 2013, then stabilized through 2019. In women, the rate was fairly stable until the mid-1980s but has since increased slowly by <0.5% per year.[5,37] Consequently, the sex gap is slowly narrowing, with the male-to-female incidence rate ratio declining from 1.59 (95% confidence interval [CI], 1.57–1.61) in 1992[6] to 1.14 (95% CI, 1.14–1.15) in 2019.[25] However, differences in risk vary widely by age. For example, rates among individuals aged 20–49 years are about 80% higher in females than in males, whereas, among those aged 75 years and older, they are nearly 50% higher in men.

The incidence rate for prostate cancer dropped by about 40% from 2007 to 2014 (Figure 3) because of declines in the diagnosis of localized tumors through PSA testing, the prevalence of which decreased after the United States Preventive Services Task Force (USPSTF) recommended against screening for men aged 75 years and older in 2008 and for all men in 2012.[38,39] However, the prostate cancer incidence rate has risen by 3% per year from 2014 through 2019, translating to 99,000 more cases than would have occurred if rates had remained stable, approximately half of which were advanced. This uptick is driven by increases of about 4.5% annually for regional-stage and distant-stage diagnoses that began as early as 2011 and are being watched closely.[37] Localized-stage disease has also begun to tick up, although the trend is not yet statistically significant. These patterns are consistent with continued reports of a shift toward higher grade and stage at prostate cancer diagnosis since circa 2010.[40] Efforts to recoup the benefit of early prostate cancer detection while mitigating overdiagnosis and overtreatment include a USPSTF upgrade to informed decision making in men aged 55–69 in 2018[41,42] and more targeted screening for clinically significant tumors using molecular markers and magnetic resonance imaging-targeted biopsy.[43,44] Black men benefit more from screening in general[45,46] and from the integration of personalized biomarkers because they are more likely to harbor genomically aggressive cancer, even with clinically low-risk disease.[47] Prostate cancer mortality rates in

TABLE 2 Estimated new cases for selected cancers by state, 2023[a]

State	All sites	Female breast	Colon & rectum	Leukemia	Lung & bronchus	Melanoma of the skin	Non-Hodgkin lymphoma	Prostate	Urinary bladder	Uterine cervix	Uterine corpus
Alabama	30,730	4500	2570	780	4280	1510	1030	5320	1180	240	830
Alaska	3390	520	330	90	450	100	140	470	160	—[b]	110
Arizona	41,120	6240	3220	1190	4450	2800	1710	5060	1960	280	1260
Arkansas	18,670	2510	1630	520	2950	1080	720	2500	750	160	520
California	192,770	32,020	16,420	5510	17,040	10,950	8280	26,970	7250	1610	7050
Colorado	28,920	4910	2120	870	2600	2000	1150	4220	1220	200	920
Connecticut	23,480	3620	1560	810	2750	830	1020	3990	1160	120	800
Delaware	7240	1050	500	200	920	350	310	1330	350	50	250
District of Columbia	3520	570	240	60	350	80	120	540	110	—[b]	130
Florida	162,410	22,670	11,750	6080	19,340	9640	8200	24,000	7210	1200	5050
Georgia	61,170	9440	4880	1700	7610	3310	2090	9140	2160	470	1760
Hawaii	8460	1480	770	210	930	520	330	1190	300	50	340
Idaho	10,810	1560	810	380	1080	760	440	1700	540	70	350
Illinois	74,580	11,530	6200	2090	9670	3380	2990	10,580	3160	520	2770
Indiana	40,270	5810	3430	1230	6020	2180	1580	5580	1780	280	1340
Iowa	20,460	2810	1630	740	2680	1310	860	2970	940	120	690
Kansas	16,840	2470	1430	500	2240	640	680	2680	720	120	550
Kentucky	30,270	4030	2640	850	5170	1490	1120	3520	1240	230	830
Louisiana	28,580	4050	2560	820	3850	1260	1040	4970	1060	230	820
Maine	10,490	1450	690	340	1550	490	450	1210	580	—[b]	390
Maryland	35,200	5760	2560	1050	4290	1840	1380	5980	1340	230	1320
Massachusetts	42,880	6770	2880	1280	5790	1540	1750	6430	1890	210	1470
Michigan	61,910	8980	4630	1820	8690	2680	2580	8360	2980	380	2420
Minnesota	34,380	5220	2430	1200	3970	1140	1510	4880	1530	150	1190
Mississippi	18,210	2610	1750	460	2830	720	600	2790	620	150	530
Missouri	37,910	5700	3030	1190	5760	1610	1500	5000	1570	280	1320
Montana	7100	1030	540	220	720	550	290	1370	350	—[b]	220
Nebraska	11,530	1670	950	380	1340	640	470	2180	470	60	370
Nevada	17,370	2620	1490	540	2030	800	720	2180	820	150	550
New Hampshire	9580	1390	650	290	1280	560	410	1410	520	—[b]	360
New Jersey	56,150	8580	4220	1790	5920	2250	2420	9460	2540	350	2120
New Mexico	11,280	1730	940	350	960	610	470	1680	410	100	360
New York	123,810	18,780	8970	3560	14,150	4000	5150	20,390	5440	850	4620
North Carolina	67,690	10,730	4,740	2100	8810	3950	2560	10,040	2760	420	2180
North Dakota	4370	610	370	160	530	290	170	740	200	—[b]	120
Ohio	74,140	11,200	5910	1980	10,680	3880	2900	10,980	3400	510	2570
Oklahoma	23,420	3330	1950	710	3390	1220	890	3100	920	200	700
Oregon	26,030	4220	1840	680	3030	1540	1090	3400	1210	140	830
Pennsylvania	88,450	12,830	6610	2600	11,320	3630	3690	13,210	4270	510	3330
Rhode Island	7030	1050	470	220	940	290	310	1030	340	—[b]	260
South Carolina	33,890	5430	2550	890	4650	1800	1230	5770	1390	240	1040

TABLE 2 (Continued)

State	All sites	Female breast	Colon & rectum	Leukemia	Lung & bronchus	Melanoma of the skin	Non-Hodgkin lymphoma	Prostate	Urinary bladder	Uterine cervix	Uterine corpus
South Dakota	5340	760	440	190	690	310	220	1040	240	—[b]	170
Tennessee	43,790	6210	3450	1200	6580	1990	1600	6280	1730	320	1320
Texas	139,100	22,280	12,220	4780	14,510	5530	5540	17,230	4490	1510	4460
Utah	13,840	2030	940	440	800	1550	510	2500	500	90	470
Vermont	4370	630	300	130	590	230	210	630	200	—[b]	150
Virginia	47,100	7810	3630	1230	6010	2360	1910	7580	1830	310	1590
Washington	44,630	7050	3160	1360	5030	2680	1900	6450	1940	270	1430
West Virginia	12,840	1620	1120	390	2170	560	550	1780	620	90	450
Wisconsin	37,640	5460	2650	1320	4630	1970	1630	5800	1780	180	1390
Wyoming	3170	460	260	90	330	210	110	690	170	—[b]	110
United States	1,958,310	297,790	153,020	59,610	238,340	97,610	80,550	288,300	82,290	13,960	66,200

Note: These are model-based estimates that should be interpreted with caution. State estimates may not add to US totals because of rounding and the exclusion of states with fewer than 50 cases.

[a]Rounded to the nearest 10; excludes basal cell and squamous cell skin cancers and in situ carcinomas except urinary bladder. Estimates for Puerto Rico are unavailable.

[b]The estimate is fewer than 50 cases.

TABLE 3 Probability (%) of developing invasive cancer within selected age intervals by sex, United States, 2017–2019[a]

		Probability, %				
Cancer site	Sex	Birth to 49 years	50–59 years	60–69 years	70 years and older	Birth to death
All sites[b]	Male	3.5 (1 in 29)	6.2 (1 in 16)	13.8 (1 in 7)	34.0 (1 in 3)	40.9 (1 in 2)
	Female	5.8 (1 in 17)	6.4 (1 in 16)	10.4 (1 in 10)	27.2 (1 in 4)	39.1 (1 in 3)
Breast	Female	2.1 (1 in 48)	2.4 (1 in 41)	3.5 (1 in 28)	7.0 (1 in 14)	12.9 (1 in 8)
Colon & rectum	Male	0.4 (1 in 241)	0.7 (1 in 138)	1.1 (1 in 90)	3.1 (1 in 33)	4.3 (1 in 23)
	Female	0.4 (1 in 267)	0.5 (1 in 191)	0.8 (1 in 130)	2.8 (1 in 36)	3.9 (1 in 26)
Kidney & renal pelvis	Male	0.3 (1 in 389)	0.4 (1 in 250)	0.7 (1 in 144)	1.4 (1 in 69)	2.3 (1 in 44)
	Female	0.2 (1 in 609)	0.2 (1 in 504)	0.3 (1 in 292)	0.8 (1 in 124)	1.3 (1 in 75)
Leukemia	Male	0.3 (1 in 380)	0.2 (1 in 538)	0.4 (1 in 263)	1.4 (1 in 69)	1.8 (1 in 55)
	Female	0.2 (1 in 495)	0.1 (1 in 820)	0.2 (1 in 425)	0.9 (1 in 111)	1.3 (1 in 78)
Lung & bronchus	Male	0.1 (1 in 848)	0.6 (1 in 178)	1.7 (1 in 59)	5.6 (1 in 18)	6.2 (1 in 16)
	Female	0.1 (1 in 746)	0.5 (1 in 183)	1.4 (1 in 72)	4.7 (1 in 21)	5.8 (1 in 17)
Melanoma of the skin[c]	Male	0.4 (1 in 246)	0.5 (1 in 205)	0.9 (1 in 114)	2.6 (1 in 38)	3.5 (1 in 28)
	Female	0.6 (1 in 162)	0.4 (1 in 247)	0.5 (1 in 191)	1.1 (1 in 88)	2.4 (1 in 41)
Non-Hodgkin lymphoma	Male	0.3 (1 in 400)	0.3 (1 in 354)	0.6 (1 in 181)	1.8 (1 in 55)	2.3 (1 in 43)
	Female	0.2 (1 in 535)	0.2 (1 in 473)	0.4 (1 in 250)	1.3 (1 in 74)	1.9 (1 in 53)
Prostate	Male	0.2 (1 in 457)	1.8 (1 in 55)	5.2 (1 in 19)	9.2 (1 in 11)	12.6 (1 in 8)
Thyroid	Male	0.2 (1 in 487)	0.1 (1 in 767)	0.2 (1 in 599)	0.2 (1 in 416)	0.6 (1 in 155)
	Female	0.8 (1 in 125)	0.3 (1 in 290)	0.3 (1 in 318)	0.4 (1 in 276)	1.7 (1 in 59)
Uterine cervix	Female	0.3 (1 in 340)	0.1 (1 in 803)	0.1 (1 in 934)	0.2 (1 in 593)	0.7 (1 in 153)
Uterine corpus	Female	0.3 (1 in 305)	0.6 (1 in 161)	1.0 (1 in 97)	1.5 (1 in 68)	3.1 (1 in 33)

[a]For people free of cancer at beginning of age interval.

[b]All sites exclude basal cell and squamous cell skin cancers and in situ cancers except urinary bladder.

[c]Probability for non-Hispanic White individuals.

Estimated New Cases

Males			Females		
Prostate	288,300	29%	Breast	297,790	31%
Lung & bronchus	117,550	12%	Lung & bronchus	120,790	13%
Colon & rectum	81,860	8%	Colon & rectum	71,160	8%
Urinary bladder	62,420	6%	Uterine corpus	66,200	7%
Melanoma of the skin	58,120	6%	Melanoma of the skin	39,490	4%
Kidney & renal pelvis	52,360	5%	Non-Hodgkin lymphoma	35,670	4%
Non-Hodgkin lymphoma	44,880	4%	Thyroid	31,180	3%
Oral cavity & pharynx	39,290	4%	Pancreas	30,920	3%
Leukemia	35,670	4%	Kidney & renal pelvis	29,440	3%
Pancreas	33,130	3%	Leukemia	23,940	3%
All Sites	**1,010,310**	**100%**	**All Sites**	**948,000**	**100%**

Estimated Deaths

Males			Females		
Lung & bronchus	67,160	21%	Lung & bronchus	59,910	21%
Prostate	34,700	11%	Breast	43,170	15%
Colon & rectum	28,470	9%	Colon & rectum	24,080	8%
Pancreas	26,620	8%	Pancreas	23,930	8%
Liver & intrahepatic bile duct	19,000	6%	Ovary	13,270	5%
Leukemia	13,900	4%	Uterine corpus	13,030	5%
Esophagus	12,920	4%	Liver & intrahepatic bile duct	10,380	4%
Urinary bladder	12,160	4%	Leukemia	9,810	3%
Non-Hodgkin lymphoma	11,780	4%	Non-Hodgkin lymphoma	8,400	3%
Brain & other nervous system	11,020	3%	Brain & other nervous system	7,970	3%
All Sites	**322,080**	**100%**	**All Sites**	**287,740**	**100%**

FIGURE 1 Ten leading cancer types for the estimated new cancer cases and deaths by sex, United States, 2023. Estimates are rounded to the nearest 10, and cases exclude basal cell and squamous cell skin cancers and in situ carcinoma except urinary bladder. Ranking is based on modeled projections and may differ from the most recent observed data.

Black men are approximately two to four times higher than those in every other racial and ethnic group (Table 5).

Female breast cancer incidence rates have been slowly increasing by about 0.5% per year since the mid-2000s, largely driven by diagnoses of localized-stage and hormone receptor-positive disease.[48] This trend has been attributed at least in part to continued declines in the fertility rate and increases in excess body weight,[49] which may also contribute to increased uterine corpus cancer incidence of about 1% per year since the mid-2000s among women aged 50 years and older and nearly 2% per year since at least the mid-1990s in younger women.[37,50] After decades of increase, thyroid cancer incidence rates have declined since 2014 by about 2% per year because of changes in clinical practice designed to mitigate over detection, including recommendations against thyroid cancer screening by the USPSTF, and for more restrictive criteria for performing and interpreting biopsies by professional societies.[51,52] Data from autopsy studies indicate that the occurrence of clinically relevant thyroid tumors has remained stable since 1970 and is generally similar in men and women, despite three-fold higher overall incidence rates in women.[53,54]

Lung cancer incidence has declined at a steady pace since 2006–2007 by 2.6% annually in men and by 1.1% annually in women.[37] Declines in lung cancer incidence began later and have been slower in women than in men because women took up cigarette smoking in large numbers later and were also slower to quit, including upturns in smoking prevalence in some birth cohorts.[55,56] In contrast, CRC incidence patterns have been similar by sex since at least the mid-1970s, with rates declining by 1.4%–1.5% per year since 2012 in both men and women.[37] However, these rates are driven by cancer occurrence in older age groups, for whom screening has been recommended, and mask increasing trends in young adults. Compared with declines of 2% per year in people aged 50 years and older during that time period, rates increased by almost 2% per year in adults younger than 50 years. Rising incidence in the United States and several other high-income countries since the mid-1990s[57] remains unexplained but likely reflects changes in lifestyle exposures that began with generations born circa 1950.[58]

After a long history of increase, incidence of non-Hodgkin lymphoma decreased by about 1% per year during 2015 through 2019, and melanoma and liver cancer have stabilized. However, progress

TABLE 4 Estimated deaths for selected cancers by state, 2023[a]

State	All sites	Brain & other nervous system	Female breast	Colon & rectum	Leukemia	Liver & intrahepatic bile duct	Lung & bronchus	Non-Hodgkin lymphoma	Ovary	Pancreas	Prostate
Alabama	10,640	330	720	900	370	520	2610	290	200	840	540
Alaska	1,150	—[b]	60	110	—[b]	70	220	—[b]	—[b]	90	60
Arizona	13,460	420	920	1300	530	690	2290	430	320	1140	850
Arkansas	6340	190	390	550	200	310	1680	190	120	460	340
California	59,830	2180	4680	5530	2290	3450	9380	2180	1450	4970	4090
Colorado	8650	310	690	740	340	430	1450	280	210	790	740
Connecticut	6440	230	480	550	290	320	1320	230	160	540	400
Delaware	2230	60	160	170	90	90	500	80	50	210	100
District of Columbia	990	—[b]	60	90	—[b]	80	160	—[b]	—[b]	100	70
Florida	47,410	1450	3170	3810	1970	2230	10,230	1580	1060	3910	2650
Georgia	18,510	590	1400	1640	660	820	4060	500	430	1520	1020
Hawaii	2620	60	180	240	90	170	480	90	50	240	150
Idaho	3120	100	160	270	140	170	580	120	80	280	200
Illinois	23,380	680	1720	2110	910	1080	5000	780	550	2080	1270
Indiana	13,660	330	930	1170	510	650	3250	460	260	1170	760
Iowa	6310	190	380	540	260	230	1410	200	140	460	370
Kansas	5690	190	370	500	240	250	1330	190	120	410	280
Kentucky	10,090	280	790	890	400	380	2710	320	160	740	410
Louisiana	9420	250	690	870	390	530	2240	290	170	730	470
Maine	3500	110	190	270	120	120	870	120	70	270	170
Maryland	11,090	320	850	980	420	510	1950	350	260	910	680
Massachusetts	12,420	450	760	880	490	530	2570	350	300	1120	680
Michigan	21,380	620	1370	1740	800	920	4930	760	460	1810	1210
Minnesota	10,280	320	640	830	450	380	2090	400	210	870	630
Mississippi	6690	190	470	640	230	300	1740	170	110	440	370
Missouri	13,090	370	810	940	470	590	3210	420	250	1010	650
Montana	2200	80	150	170	80	160	380	70	—[b]	170	140
Nebraska	3540	130	270	320	160	100	630	110	70	300	170
Nevada	5850	190	440	470	200	300	1260	220	120	450	440
New Hampshire	2910	100	180	190	100	140	560	100	—[b]	320	170
New Jersey	15,230	520	1200	1360	640	600	2800	530	350	1410	730
New Mexico	3840	120	300	290	130	300	560	130	70	310	280
New York	31,320	950	2440	2770	1200	1210	6330	1000	850	2940	1650
North Carolina	20,400	560	1450	1640	760	1010	4660	640	370	1630	1150
North Dakota	1320	—[b]	70	110	70	50	290	50	—[b]	110	70
Ohio	24,770	720	1670	2120	1060	1010	5730	830	470	2080	1310
Oklahoma	8660	250	580	800	340	460	2090	290	190	590	400
Oregon	8430	270	570	640	330	470	1650	310	150	710	500
Pennsylvania	27,460	740	1870	2280	1140	1260	5720	950	610	2340	1440

(Continues)