Centers for Disease Control and Prevention

United States Cancer Statistics (USCS)

U.S. Cancer Statistics: Highlights from 2020 Mortality and Incidence with Comparison to 2019 Incidence to Assess the Effect of the COVID-19 Pandemic

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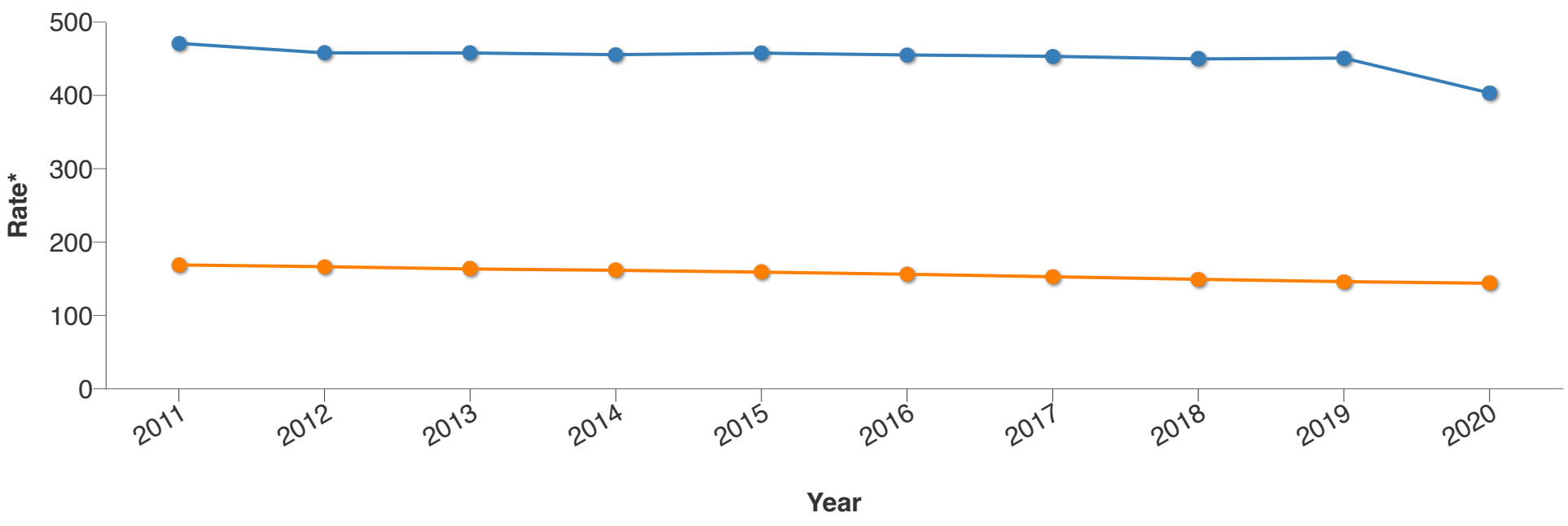
The COVID-19 pandemic disrupted health services, leading to delays and reductions in cancer screening, diagnosis, and reporting to some central cancer registries. This may have contributed to an observed decline in 2020 incidence for most cancer sites.

Each year, the Centers for Disease Control and Prevention (CDC) and the National Cancer Institute (NCI) produce updated U.S. Cancer Statistics data. These data are the official federal cancer statistics for the United States. The U.S. Cancer Statistics provides cancer information about the U.S. population. Information about new cancer cases (incidence) comes from CDC's National Program of Cancer Registries (NPCR) and NCI's Surveillance, Epidemiology, and End Results (SEER) Program, and information about cancer deaths comes from CDC's National Center for Health Statistics. The latest data release includes information about new cancer cases and deaths through 2020, the first year of the COVID-19 pandemic.

In March 2020, the World Health Organization declared COVID-19 a pandemic. Soon after, stay-at-home orders, business and school shutdowns, and travel advisories were implemented in the United States to prevent the spread of COVID-19. Additionally, some health care systems reduced access to routine care. These measures, along with concern about getting COVID-19, interrupted cancer screening, diagnosis, and care as people postponed or deferred health care visits, particularly from March to May 2020.

Cancer rates normally change from year to year, in part because of changes in screening test use, diagnostic practices, and treatment. In addition, some changes in 2020 may be from disruptions in cancer care caused by the COVID-19 pandemic. Reporting of cancer cases may have been delayed from disruptions in registry operations (for example, reduced access to medical records or central cancer registry staff reassigned to COVID-19 response efforts). Changes in incidence may be apparent immediately whereas changes in death rates may take years to see. This year's U.S. Cancer Statistics Highlights presents rates for new cancer cases and deaths occurring in 2020, with data from previous years as a comparison.

Figure 1. Annual Age-Adjusted Rates of New Cancer Cases and Deaths, United States, 2011 to 2020



Cancer Case Diagnosis or Death

○ Cases ○ Deaths

Data Table

	Cases	Deaths
2011	471	169
2012	458	166
2013	458	163
2014	456	162

*Age-adjusted rate (cases per 100,000 standard population).

In the past 10 years, cancer mortality declined steadily to 144 deaths per 100,000 standard population in 2020. In contrast, cancer incidence was relatively stable during 2011 to 2019 but dropped sharply in 2020 to 400 cases per 100,000 standard population. This drop is thought to reflect missed diagnoses, rather than a true decline in incidence.

Caution must be taken when including the 2020 incidence datapoint in trend models to avoid incorrect interpretations of the effect of cancer prevention and early detection efforts. Observed downward trends may be due largely to the lower observed incidence in 2020 resulting from missed diagnoses related to disruptions in health services and cancer reporting caused by the COVID-19 pandemic.

Figure 2. Annual Cancer Incidence and Percentage Change in Rates by Demographic Characteristics, United States, 2019 and 2020

Make a selection from the filters to change the visualization information.

Sex [1] | Racial and Ethnic Group [1] | Age Group (years) [2]

Year

○ 2019 ○ 2020

Data Table

Level	2019	2020	Percentage Change
Overall	452	403	-11
Male	491	435	-11

Level	2019	2020	Percentage Change
Female	425	382	-10

Rates are depicted as bars. Percentage change in rates from 2019 to 2020 are presented in the data table next to 2020 entries.
[1] Age-adjusted rate (cases per 100,000 standard population).
[2] Age-specific rate (cases per 100,000 population).

Cancer incidence varied by sex, racial and ethnic groups, and age group.

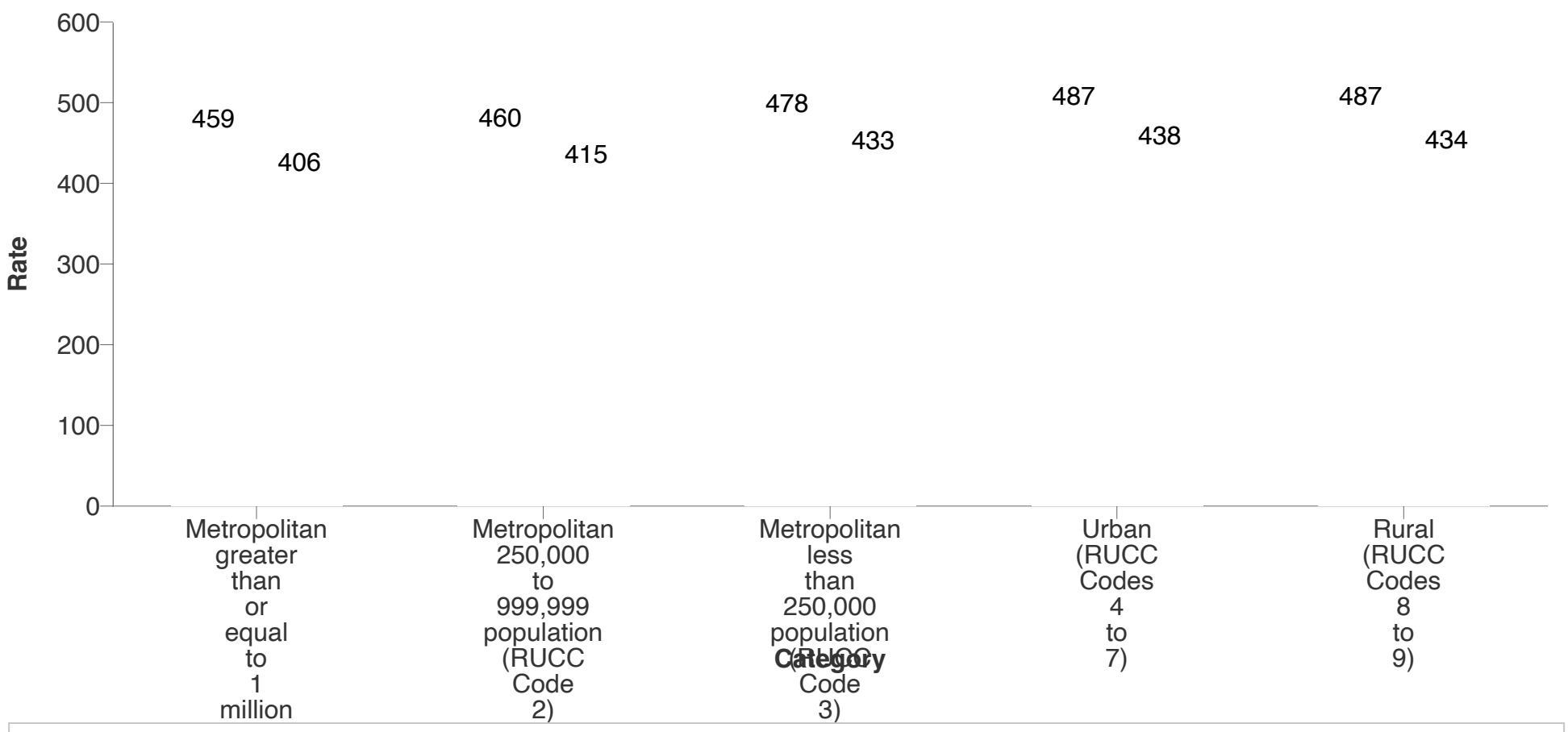
Overall, cancer incidence decreased 11% from 2019 to 2020.

- The decline in incidence was observed among both males (11% decline) and females (10% decline).
- Cancer incidence declined 11% to 13% among racial and ethnic groups.
- Cancer incidence declined among infants and children age 0 to 14 years (ranging from 2% to 8% decline), adolescents and young adults age 15 to 39 years (ranging from 6% to 8% decline), and adults 40 years and older (ranging from 9% to 12% decline).

Figure 3. Annual Cancer Incidence and Percentage Change in Rates by Geographic Characteristics, United States, 2019 and 2020

Make a selection from the filters to change the visualization information.

County-Level Urbanicity (based on USDA 2013 Rural-Urban Continuum Codes [RUCC]) | Census Region



Year

2019 2020

Data Table

Level	2019	2020	Percentage Change
Metropolitan greater than or…	459	406	-12
Metropolitan 250,000 to 99…	460	415	-10
Metropolitan less than 250,…	478	433	-9
Urban (RUCC Codes 4 to 7)	487	438	-10

Level	2019	2020	Percentage Change
Rural (RUCC Codes 8 to 9)	487	434	-11

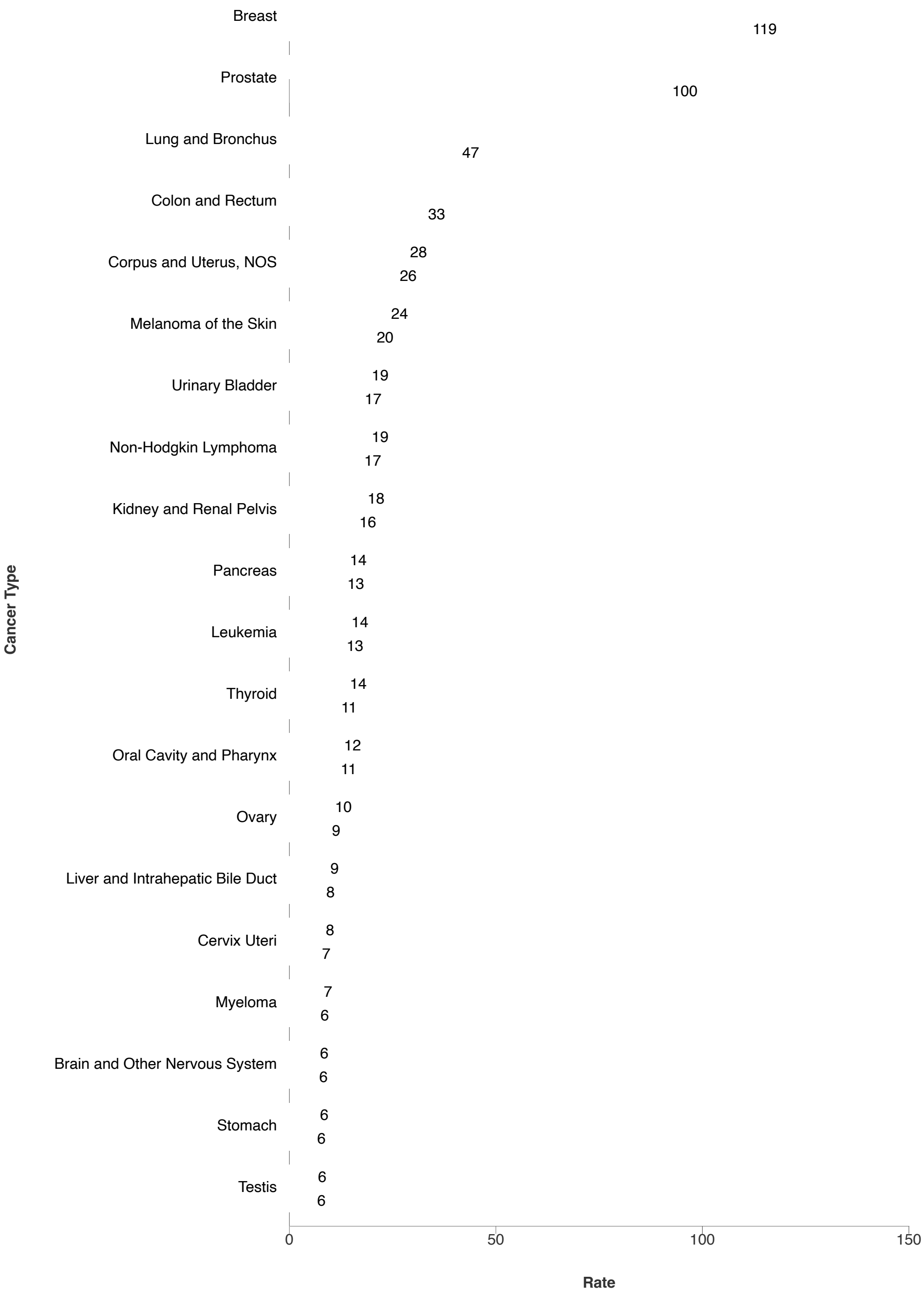
Rates are depicted as bars. Percentage change in rates from 2019 to 2020 are presented in the data table. Age-adjusted rate (cases per 100,000 standard population).

Cancer incidence differed by county-level urbanicity (as defined by the 2013 Rural-Urban Continuum Codes developed by the U.S. Department of Agriculture). Incidence declined more in metropolitan counties with population of 1 million or more (12% decline) and in rural counties (11% decline) than in other counties (9% to 10% decline).

Cancer incidence differed by U.S. Census region, being lowest in the West. Cancer incidence declined 13% in the Northeast, 11% in the West, and 10% in the Midwest and the South. Because cancer incidence decreased differently in these regions, the differences between these groups shifted. For example, in 2019, the Northeast had higher cancer incidence than the Midwest; but in 2020, incidence was similar because the Northeast experienced a higher decline in rates from 2019 to 2020.

Caution must be taken in comparing 2020 cancer incidence rates between groups because some groups may have had disproportionate disruptions in health services, leading to larger delays and reductions in cancer screening and diagnosis, and disproportionate delays in reporting.

Figure 4. Annual Cancer Incidence and Percentage Change in Rates by Cancer Type, United States, 2019 and 2020


Breast
119
Prostate
100
Lung and Bronchus
47
Colon and Rectum
33
Corpus and Uterus, NOS
28
26
Melanoma of the Skin
24
20
Urinary Bladder
19
17
Non-Hodgkin Lymphoma
19
17
Kidney and Renal Pelvis
18
16
Pancreas
14
13
Leukemia
14
13
Thyroid
14
11
Oral Cavity and Pharynx
12
11
Ovary
10
9
Liver and Intrahepatic Bile Duct
9
8
Cervix Uteri
8
7
Myeloma
7
6
Brain and Other Nervous System
6
6
Stomach
6
6
Testis
6
6
Cancer Type
0
50
100
150
Rate

Year

2019 2020

Data Table

Cancer Type	2019	2020	Percentage Change
Breast	132	119	-10
Prostate	117	100	-15
Lung and Bronchus	54	47	-13
Colon and Rectum	37	33	-12
Corpus and Uterus, NOS	28	26	-9
Melanoma of the Skin	24	20	-15
Urinary Bladder	19	17	-9
Non-Hodgkin Lymphoma	19	17	-10
Kidney and Renal Pelvis	18	16	-11
Pancreas	14	13	-5
Leukemia	14	13	-8
Thyroid	14	11	-16
Oral Cavity and Pharynx	12	11	-7
Ovary	10	9	-7
Liver and Intrahepatic Bile …	9	8	-11
Cervix Uteri	8	7	-11
Myeloma	7	6	-11
Brain and Other Nervous S…	6	6	-4
Stomach	6	6	-10
Testis	6	6	-3

Rates are depicted as bars. Percentage change in rates from 2019 to 2020 are presented in the data tables. Age-adjusted rate (cases per 100,000 standard population).

Decreases in incidence from 2019 to 2020 varied by cancer type. Incidence decreased most (16% decline) for thyroid cancer which is often found incidentally during health care visits. Incidence decreased 10% to 15% among cancer types commonly found by early detection or screening tests (breast, cervix, prostate, lung, and colon and rectum). Incidence decreased least (3% to 5%) for cancer types, such as pancreatic, testicular, and brain cancer, that are often found when patients come in with symptoms.

Explore U.S. Cancer Statistics

The Data Visualizations tool makes it easy for anyone to explore and use the latest cancer data.

You can use this tool to create interactive graphics examining—

- New cancer cases and cancer deaths by—
  - State, county, and Congressional district.
  - Sex, age, race, ethnicity, and year.
- Number and percentage of new cancer cases by stage at diagnosis.
- Survival statistics by stage at diagnosis (by state).
- Number of cancer survivors—also called prevalence (by state).
- Percentage of people who are up to date on colorectal, cervical, and breast cancer screening (by state and county).
- Percentage of people with selected cancer risk factors (by state and county).

Researchers can use SEER*Stat software to analyze incidence data from the entire United States with the Public Use Databases.

Data Sources

Data in this brief come from U.S. Cancer Statistics, the official federal cancer statistics. The data in this brief are limited to invasive (malignant) cancers which excludes basal and squamous cell carcinomas of the skin except when these occur on the skin of the genital organs, benign and borderline brain and central nervous system tumors, and in situ cancers except urinary bladder. Urinary bladder cancer includes invasive and *in situ*.

U.S. Cancer Statistics incidence data are from population-based registries that participate in CDC's National Program of Cancer Registries (NPCR) and/or the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) Program and met high-quality data criteria for the 2022 data submission, covering 97% of the U.S. population (excluding data from Nevada and Indiana). U.S. Cancer Statistics death data are from CDC's National Center for Health Statistics National Vital Statistics System and cover 100% of the U.S. population.

More Information

- U.S. Cancer Statistics
- Cancer and COVID-19
- CDC Museum COVID-19 Timeline
- Effect of COVID-19 Pandemic on 2020 U.S. Cancer Statistics
- Impact of COVID on 2020 SEER Cancer Incidence Data

Suggested Citation

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