U.S. Cancer Statistics Data Visualizations Tool: Cancer Incidence and Mortality Estimates by United States Congressional Districts

Simple Singh, MD, MPH, Mary Elizabeth O’Neil, MPH, Trevor Thompson, BS, Virginia Senkomago, PhD, Anil Kolli MS, Douglas Day, Lorisa Pollack, MD, Manxia Wu, MD, MPH, Vicki Benard, PhD

Background

- The U.S. Cancer Statistics (USCS) Data Visualizations tool provides user-driven access to the official federal cancer statistics, which includes cancer incidence and mortality data at the national, state, and county levels.
- Federal and state public health agencies are often asked to respond to congressional inquiries on cancer.
- A newly added module features incidence and mortality data at the U.S. Congressional district level.

Purpose

- To describe the methods to estimate cancer incidence and mortality by U.S. Congressional District.
- To describe a recent USCS Data Visualizations tool enhancement, cancer incidence and mortality estimates by U.S. Congressional District.

Approach

- USCS combines cancer incidence data from CDC NPCR and NCI SEER and mortality data from CDC’s National Vital Statistics System.
- Using previously published methodology, CDC calculated estimates for federal CDs according to the boundaries for the 116th Congress of the United States.
- Rates and counts for CDs that did not follow state boundaries were estimated using Census block-level population data.
- The rates were calculated by assigning county-level age-adjusted rates to the census block and weighting those by the block population proportion of the CD. The weighted rates were then aggregated over the blocks within the CD.
- To estimate counts, weights were calculated as the county population in the CD divided by the total county population. The weighted counts were then aggregated over the counties in the CD.
- Estimated incidence rates and counts are displayed from 406 congressional districts.
- Incidence data are not included for Kansas (4 congressional districts) and Minnesota (8 congressional districts) because county-level incidence data were not available.
- Illinois opted not to present congressional district-specific estimated case counts and incidence rates (18 congressional districts).

Results

- Estimated rates and counts at the CD-level are presented by:
  - sex and race and ethnicity,
  - all cancers combined, and
  - 20 leading cancer sites
- The underlying maps’ and graphs’ data can be viewed in tables and exported.
- The data are displayed by maps of incidence and mortality estimates for CDs in each state,
  - by rankings of leading cancer sites for each CD, and
  - by graphs ranking rates by sex and race for each CD.
- Detailed footnotes, tool tips, descriptive text, and technical notes are included.

Highlights

- Rates and counts displayed are estimates based on death data are from the CDC’s National Center for Health Statistics National Vital Statistics System and cover 100% of U.S. population.
- Rates and counts are not presented for people of unknown or other race. Black race categories are not mutually exclusive from Hispanic origin. See Technical Notes.
- Rates and counts are suppressed if fewer than 16 cases (or deaths) were estimated in a specific category, such as cancer type, race, and ethnicity.

Conclusions

- Cancer information by Congressional District (CD) makes the data more relevant and highlights the value of population-based cancer surveillance.
- Surveillance data are vital for measuring progress and targeting public health action. CDC’s USCS Data Visualizations tool is designed to make cancer data more accessible and usable. We will continue to add enhancements to the tool and data are updated annually.