Incidence Rate versus Death Rate in Adults

Sarah Stepanek, PharmD Candidate 2021
Karolina Jekielek, PharmD Candidate 2022
Midwestern University - Chicago College of Pharmacy

National Community Oncology Dispensing Association, Inc.
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Background

- Cancer is the second leading cause of death in the U.S and accounts for approximately 16% of deaths worldwide, making it a disease state that affects all ages, ethnicities, and socioeconomic classes.
- Cancer death rates are the best way to determine the progress of current treatment.
- Cancer data lags about 2-4 years due to the time it takes to collect and analyze the data, so we often have to base many current trends from estimations rather than actual data.
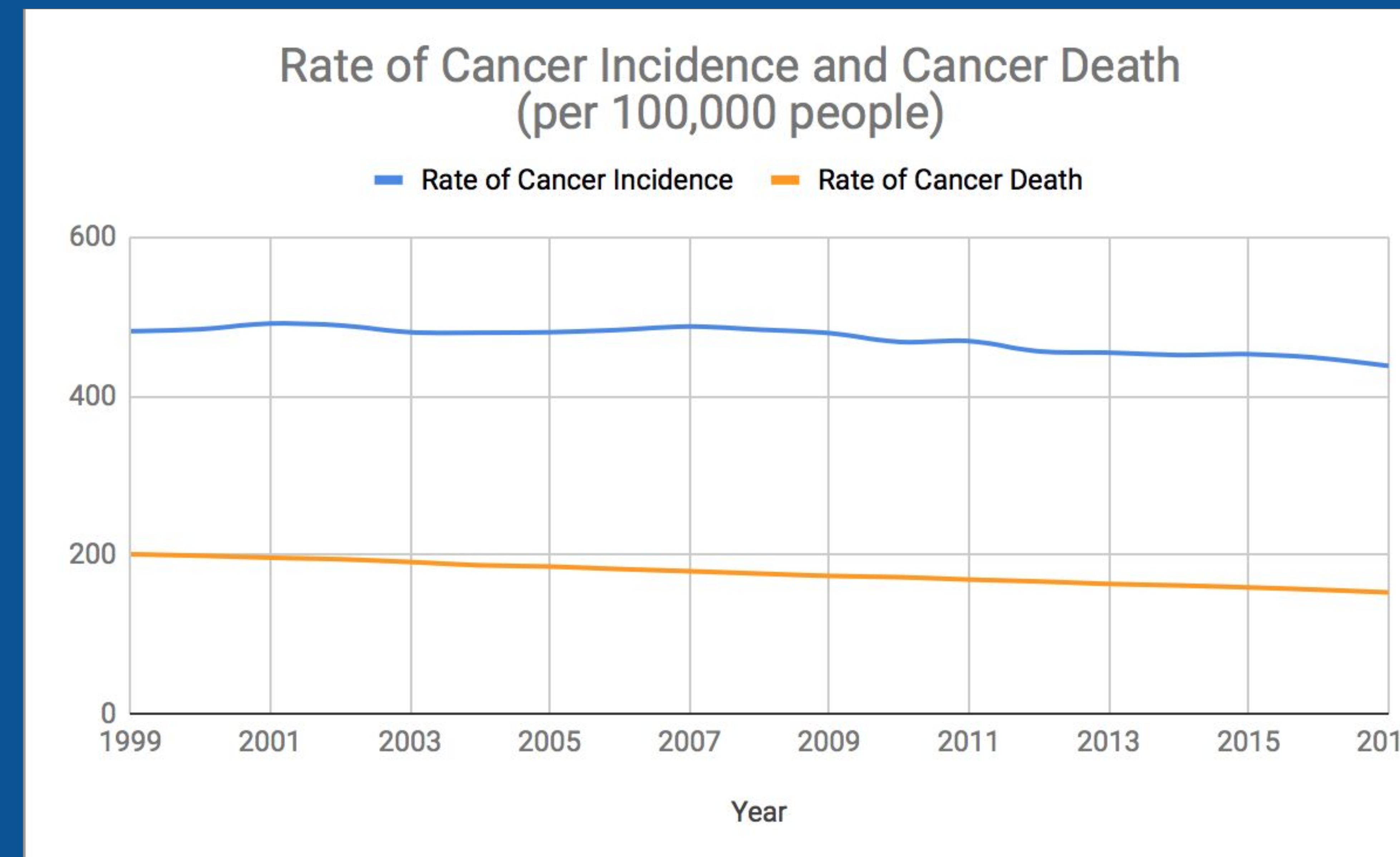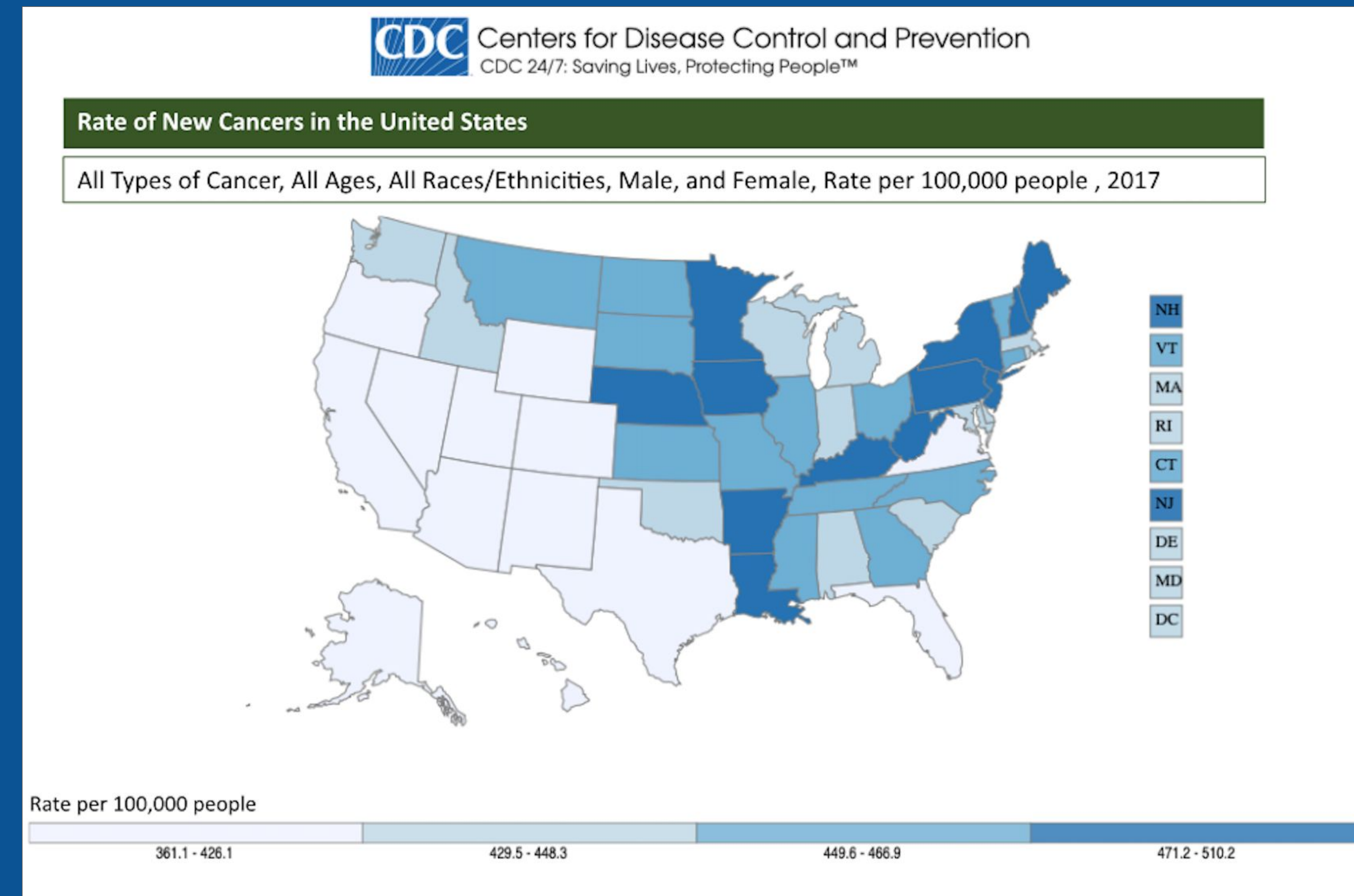
Objective

- To observe trends in cancer diagnoses and cancer deaths within the U.S.
- Understand how geographic location can influence the amount of diagnoses and deaths seen.

Methods

- Compiled information available through the CDC, American Cancer Society, and the Journal of the National Cancer Institute regarding cancer incidences and cancer death rates.
- Analyzed all found data to collate trends and themes seen within the past 4 years in the United States.

References

- U.S. Cancer Statistics Working Group. U.S. Cancer Statistics Data Visualizations Tool, based on 2019 submission data (1999-2017): U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; www.cdc.gov/cancer/dataviz, released in June 2020.
- Ward EM, Sherman RL, Henley SJ, et al. Annual Report to the Nation on the Status of Cancer, Featuring Cancer in Men and Women Age 20-49 Years. J Natl Cancer Inst. 2019 Dec 1;111(12):1279-1297. doi: 10.1093/jnci/djz106. PMID: 31145458; PMCID: PMC6910179.

Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

Rate of New Cancers in the United States

All Types of Cancer, All Ages, All Races/Ethnicities, Male, and Female, Rate per 100,000 people , 2017

Rate per 100,000 people

| 361.1 - 426.1 | 429.5 - 448.3 | 449.6 - 466.9 | 471.2 - 510.2 |

Rate of Cancer Incidence and Cancer Death (per 100,000 people)

— Rate of Cancer Incidence   — Rate of Cancer Death

Study Design

- This is a meta analysis that compiles and compares the current estimated cancer statistics with the most recent confirmed data.

Discussion

- Over the years we have seen an increase in cancer cases every year; however, a decrease in cancer deaths has been noted.
- Cancer incidence rates for many preventable cancer are overall on the decline
  - Lung, bronchus, and larynx due to a decline in tobacco use
- Cancer incidence rates due to sedentary lifestyle are overall on the incline
  - Uterus, postmenopausal breast, colorectal cancer due to excess weight and physical inactivity
  - Increase in excess body weight
    - Liver, kidney and thyroid cancer

Conclusion

- As seen by the CDC depiction, cancer appears to be more prevalent in north-eastern United States.
  - Possibly due to:
    - Cold weather causing a more sedentary lifestyle.
    - Healthier lifestyles on the west coast
    - More environmental burdens on the east coast
- Cancer incidence rates have remained unchanged
  - The amount of new diagnoses increases each year
  - The rate stays the same due to the constantly increasing population
- Cancer deaths have declined
  - Advances in pharmacotherapy
  - Lifestyle modifications
  - Early intervention