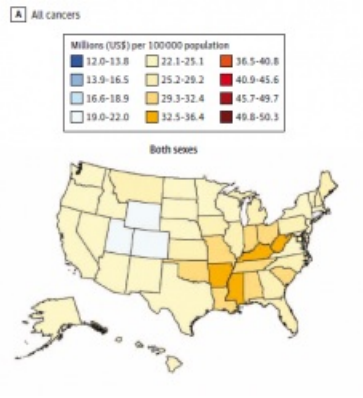
The Costs of Cancer in 2015: 8.7 Million Years of Life and $94 Billion in Lost Earnings

New analysis identifies which cancers and which states are associated with the greatest cost



Cancer took more than 8.7 million years of life and $94.4 billion in lost earnings among people ages 16 to 84 in the United States in 2015. The calculation comes from a new report by American Cancer Society researchers that appears early online in JAMA Oncology.

> *“Lung cancer cost the most in lost earnings, followed by colorectal, female breast, and pancreatic cancers”*

Cancer is the second-leading cause of death in the U.S., expected to cause more than 606,880 deaths in 2019. Cancer deaths impose significant economic burden in the United States because of productivity losses due to premature death. Accurate information on the economic burden of cancer mortality can help in setting policies and prioritizing resources for cancer prevention and control. However, contemporary data are lacking for the United States nationally and by state.

To update estimated lost earnings due to death from cancer, investigators led by Farhad Islami, M.D., Ph.D., calculated person-years of life lost using numbers of cancer deaths and life expectancy data in individuals aged 16 to 84 years who died from cancer in the United States in 2015. They created estimates for cancer deaths overall and for the major cancers in the United States nationally and by state. The estimates are for lost earnings alone, and do not include other costs associated with cancer, including costs of treatment and caregiving.

A total of 492,146 cancer deaths occurred in people ages 16 to 84 in the U.S. in 2015, translating to a total of 8,739,939 life years lost. Overall lost earnings were $94.4 billion, and $191,900 per cancer death. Lost earnings were $29.0 million per 100,000 population overall.

Lung cancer cost the most in lost earnings ($21.3 billion; 22.5% of total), followed by colorectal ($9.4 billion; 10.0%), female breast ($6.2 billion; 6.5%), and pancreatic ($6.1 billion; 6.5%) cancers. By age, lost earnings were highest for leukemia in ages 16 to 39 while lung cancer was highest in ages 40 and over.

Lost earnings per 100,000 population varied considerably by state, ranging from $19.6 million per 100,000 in Utah to $35.3 million per 100,000 in Kentucky. States with the highest age-standardized lost earning rates were in the South, followed by states in the Midwest. States with the lowest age-standardized lost earning rates were in the West, Northeast, and Hawaii.

If all states had Utah’s lost earnings rate in 2015, lost earnings in the U.S. would have been reduced by 29.3%, or $27.7 billion, and life years lost nationwide in 2015 would be reduced by 2.4 million.

“Years of life lost and lost earnings were high for many cancers for which there are modifiable risk factors and effective screening and treatment, which suggests that a substantial proportion of our current national mortality burden is potentially avoidable,” said Dr. Islami. “Applying comprehensive cancer prevention interventions and ensuring equitable access to high-quality care across all states could reduce the burden of cancer and associated geographic and other differences in the country. Health care professionals can contribute to achieving this goal because they play a central role in the delivery of cancer prevention, screening, and treatment.”

Article: Lost earnings from cancer deaths in the United States: national and state estimates, Islami et al. JAMA Oncol 2019 DOI: 10.1001/jamaoncol.2019.1460