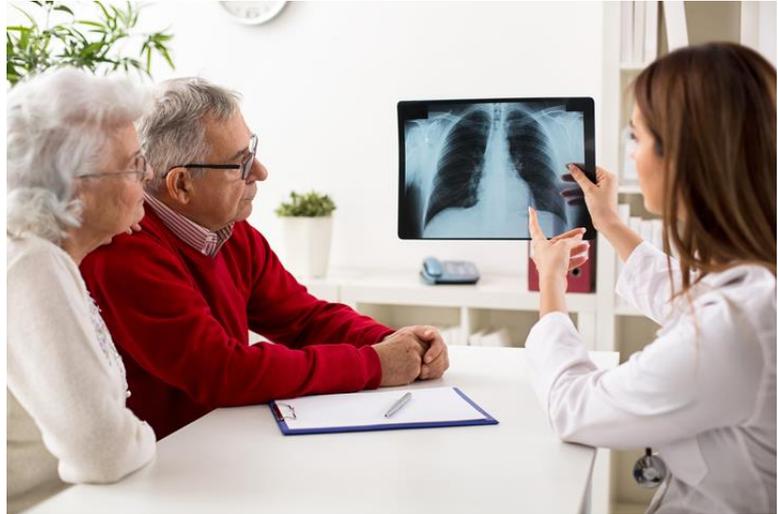


EXECUTIVE SUMMARY

More than 15,000 Kansans are diagnosed with cancer each year, and approximately 5,500 die from the disease. In fact, cancer is one of the leading causes of death in the state. This report describes the current status of cancer incidence and mortality in Kansas, as well as the prevalence of associated risk and protective factors among Kansans. The purpose of this report is to help guide cancer stakeholders at the state and local levels in their cancer prevention and control activities by identifying gaps and establishing baselines for planning objectives. Ongoing surveillance of



statewide data described in this report will continue to support stakeholders' need to monitor their progress and evaluate the impact of their work towards prevention and control of cancer in Kansas.

Incidence

- From 2008 to 2017, the age-adjusted cancer incidence rates decreased significantly in Kansas and the U.S.
- In 2017, the age-adjusted cancer incidence rate in Kansas was 449.2 cases per 100,000 persons, and the rate was 437.8 cases per 100,000 persons in the U.S.
- In Kansas, the overall cancer incidence is significantly higher among males compared to females; non-Hispanics compared to Hispanics; and Kansans living in urban/semi-urban population density counties. However, this varies by cancer type.
- Cancer incidence rates increase dramatically with age, with the highest rate among Kansans aged 80-84 years old.
- The most commonly diagnosed invasive cancers in Kansas are prostate, lung and bronchus, and colorectal among men; and breast, lung and bronchus, and colorectal among women.
- The Kansas counties with the highest overall cancer incidence rates are Butler, Ellis, Franklin, Geary, and Shawnee.

Mortality

- From 2008 to 2018, the age-adjusted cancer mortality rates decreased significantly in Kansas and the U.S.
- In 2018, the age-adjusted cancer mortality rate was 153.9 deaths per 100,000 persons in Kansas; in 2017, the rate was 152.6 deaths per 100,000 persons in the U.S.
- In Kansas, the cancer mortality rates were significantly higher among males compared to females; African Americans compared to Whites; and Hispanics compared to non-Hispanics. However, this varies by cancer type.
- Cancer mortality rates increase dramatically with age, with the highest rate among Kansans aged 85 years and older.
- The leading causes of cancer death in Kansas are lung and bronchus, prostate, and colorectal among men; and lung, breast, and colorectal among women.

- The Kansas counties with the highest overall cancer mortality rates are Atchison, Bourbon, Chase, Cherokee, Clark, Cloud, Comanche, Crawford, Doniphan, Ellsworth, Franklin, Geary, Harper, Kingman, Lane, Logan, Ness, Osborne, Wilson, and Woodson.

Lung Cancer

- In Kansas, lung cancer is the leading cause of cancer death, and the second most commonly diagnosed cancer overall.
- In Kansas, the age-adjusted lung cancer incidence (overall and late-stage) and mortality rates decreased significantly during the period 2008-2018.
- In 2017, the age-adjusted lung cancer overall incidence rate in Kansas was 52.3 cases per 100,000 persons, and the late-stage incidence rate in Kansas was 34.7 cases per 100,000 persons. In 2018, the age-adjusted lung cancer mortality rate in Kansas was 38.7 deaths per 100,000 persons.
- In Kansas, the age-adjusted lung cancer incidence (overall and late-stage) rates were significantly higher among males compared to females; African Americans compared to Whites; and non-Hispanics compared to Hispanics.
- In Kansas, the age-adjusted lung cancer mortality rates were significantly higher among males compared to females; and non-Hispanics compared to Hispanics.
- The Kansas counties with the highest lung cancer incidence rates are Crawford, Franklin, Geary, Labette, and Wyandotte. The Kansas counties with the highest lung cancer mortality rates are Anderson, Cherokee, Cloud, Crawford, Doniphan, Franklin, Geary, Greenwood, Marshall, Neosho, and Wilson.

Colorectal Cancer

- In Kansas, colorectal cancer is the third leading cause of cancer death among males and females. It is also the third most commonly diagnosed cancer overall.
- In Kansas, the age-adjusted colorectal cancer incidence (overall and late-stage) and mortality rates decreased significantly during the period 2008-2018.
- In 2017, the age-adjusted colorectal cancer overall incidence rate was 38.7 cases per 100,000 persons and the late-stage incidence was 21.5 cases per 100,000 persons. In 2018, the age-adjusted colorectal cancer mortality rate was 14.5 deaths per 100,000 persons.
- In Kansas, the age-adjusted colorectal cancer incidence (overall and late-stage) rates are significantly higher among males compared to females; non-Hispanics compared to Hispanics, and among those living in rural counties compared to those living in urban counties during 2013-2017.
- In Kansas, the age-adjusted colorectal cancer mortality rates are significantly higher only among males compared to females during the period 2014-2018.
- The Kansas counties with the highest colorectal cancer incidence rates are Cowley, Ford, Geary, Labette, and Seward. The Kansas counties with the highest colorectal cancer mortality rates are Allen, Atchison, Bourbon, Cowley, Montgomery, and Neosho.

Female Breast Cancer

- Among Kansas women, breast cancer is the most commonly diagnosed invasive cancer and the second leading cause of cancer death.
- The age-adjusted female breast cancer incidence (overall and late-stage) and mortality rates remained stable during the period 2008-2018.
- In 2017, the age-adjusted female breast cancer overall incidence rate in Kansas was 133.3 cases per 100,000 females, and the late-stage incidence rate was 39.6 cases per 100,000 females. In 2018, the age-adjusted female breast cancer mortality rate was 19.8 deaths per 100,000 Kansas females.

- In Kansas, the age-adjusted female breast cancer overall incidence rates were significantly higher among non-Hispanics compared to Hispanics, and among Kansas females living in urban counties compared to females living in rural counties during 2013-2017.
- In Kansas, the age-adjusted female breast cancer late-stage incidence rates were significantly higher among African American compared to White women, and among non-Hispanics compared to Hispanics during 2013-2017.
- In Kansas, the age-adjusted female breast cancer mortality rates were significantly higher only among African American compared to White women during 2014-2018.
- The Kansas counties with the highest female breast cancer incidence rates are Douglas, Ellis, Franklin, Geary, and Johnson. The Kansas counties with the highest female breast cancer mortality rates are Franklin, Labette, and McPherson.

Cervical Cancer

- In Kansas, the age-adjusted cervical cancer incidence (overall and late-stage) and mortality rates remained stable during the period 2008-2018.
- In 2017, the age-adjusted cervical cancer overall incidence rate was 7.0 cases per 100,000 Kansas females, and the late-stage incidence rate was 3.1 cases per 100,000 Kansas females. In 2018, the age-adjusted cervical cancer mortality rate was 2.1 deaths per 100,000 females in Kansas.
- The age-adjusted cervical cancer incidence (overall and late-stage) rates did not differ by race, ethnicity, or county population density.
- The age-adjusted cervical cancer mortality rates were significantly higher only among African American compared to White women.
- The cervical cancer incidence rates are only available only for Johnson, Sedgwick, Shawnee, and Wyandotte counties, and they are 4.7, 9.3, 7.0, and 12.2 cases per 100,000 women, respectively. The cervical cancer mortality rates are only available for Sedgwick and Wyandotte counties, and they are 2.6 and 5.3 cases per 100,000 women.

Prostate Cancer

- In Kansas, prostate cancer is the most commonly diagnosed invasive cancer and the second leading cause of cancer death among men.
- The age-adjusted prostate cancer overall incidence decreased significantly during the period 2008-2017, while the late-stage incidence and mortality rates remained stable during the period 2008-2018.
- In 2017, the age-adjusted prostate cancer overall incidence rate was 116.4 cases per 100,000 males, and the late-stage incidence rate was 18.7 cases per 100,000 males. In 2018, the age-adjusted prostate mortality rate was 18.2 deaths per 100,000 males.
- In Kansas, prostate cancer incidence (overall and late-stage) and mortality rates were significantly higher among African Americans compared to Whites; and among non-Hispanics compared to Hispanics (only overall incidence) during the period 2013-2018.
- The Kansas counties with the highest prostate cancer incidence rates are Ellis, Franklin, Geary, Lyon, and Saline. The Kansas counties with the highest prostate cancer mortality rates are McPherson and Wyandotte.

Melanoma

- In Kansas, the age-adjusted melanoma overall incidence rates increased significantly during the period 2008-2017 while the late-stage incidence and mortality rates remained stable during the period 2008-2018.

- In 2017, the age-adjusted melanoma overall incidence rate in Kansas was 28.6 cases per 100,000 persons, and the late-stage incidence rate was 3.4 cases per 100,000 persons. In 2018, the age-adjusted melanoma mortality rate was 2.4 deaths per 100,000 Kansans.
- During 2013-2017, the age-adjusted melanoma overall incidence rates were significantly higher among men compared to women, non-Hispanic compared to Hispanic Kansans, and among Kansans living in urban counties compared to Kansans living in rural counties.
- During 2013-2018, the age-adjusted melanoma late-stage incidence and mortality rates were significantly higher only among men compared to women in Kansas.
- The Kansas counties with the highest melanoma incidence rates are Butler, Ellis, Franklin, Johnson, and Sumner. The melanoma mortality rates are available only for Johnson, Sedgwick, and Shawnee counties, and they are 2.4, 2.5, and 2.5 cases per 100,000 persons, respectively.

Cancer Incidence and Mortality among Kansas Children

- The most commonly diagnosed cancers among Kansas children less than 18 years during the period 2013-2017 were leukemia (20.5%), brain (17.5%), and thyroid (7.8%).
- The age-adjusted incidence rates for overall cancer among children less than 18 years during the period 2008-2017 were significantly higher than the rate during the period 1998-2002.
- The most recent data for Kansas shows a rate of 18.9 cases per 100,000 population (95% confidence interval: 17.5 to 20.3).
- Brain cancer (31.4%) and leukemia (24.5%) constitutes more than half of cancer-related deaths among Kansas children during the period 2014-2018
- The age-adjusted mortality rate for all cancers among children < 18 years old has not significantly changed between 1999 and 2018.
- The most recent data for Kansas shows a rate of 2.5 deaths per 100,000 population (95% confidence interval: 2.0 to 3.0).

Cancer Screening Practices

- For the years 2017 and 2019 combined, 13.1 percent (95% CI: 9.6% to 16.6%) of high-risk Kansans for lung cancer have received the LDCT for lung cancer screening.
- In 2018, 67.3 percent of Kansas adults aged 50-75 years old had met the U.S. Preventive Services Task Force (USPSTF) recommendation for colorectal cancer screening. The percentages were lower among Hispanics, adults aged 50-64 years old, those who attained lower levels of education, those with lower annual household income, those who did not have health insurance, and those living in rural counties.
- In 2018, 64.6 percent of Kansas adults 50-75 years had a colonoscopy in the past 10 years.
- In 2018, 6.5 percent of Kansas adults 50-75 years had an FOBT in the past year.
- In 2018, 69.1 percent of Kansas women aged 40 years and older had a mammogram within the past two years. The percentages were significantly lower among women aged 40-49 years old, those with lower levels of education, those with lower annual household income, those without health insurance, those living with disability, and those without health insurance.
- In 2018, 86.5 percent of Kansas women aged 40 years and older have had a discussion with their health care provider about screening for breast cancer. The percentages were significantly lower among women who did not graduate from high school, those with lower annual household income, those without health insurance, and those living with disability.
- In 2018, 83.9 percent of Kansas women aged 21-65 years old met the USPSTF recommendation for cervical cancer screening. The percentages were lower among women aged 21 to 30 and 51-65 years old, those who did not graduate from high school or attended some college, those with annual household income less than \$50,000, those living with disability, and those without health insurance.

- In 2018, 32.9 percent of Kansas men aged 40 years and older had a PSA test within the past two years. The percentages were significantly lower among men in younger age groups, race groups other than Whites, Hispanics, those with education level lower than a college degree, those with lower annual household income, and those without health insurance.

Cancer Risk and Protective Factors

- In 2019, 16.2 percent of Kansas adults 18 years and older were current smokers. In 2017, 7.2 percent of Kansas high school students in grade 9-12 were current smokers.
- During 2018-2019, approximately 5.4 percent of Kansas adults 18 years and older used smokeless tobacco products. In 2017, approximately 5.3 percent of high school students in grades 9-12 currently used smokeless tobacco in Kansas.
- In 2019, 35.2 percent of Kansas adults 18 years and older were obese.
- In 2019, 50.4 percent of Kansas adults 18 years and older consumed fruits and vegetables 1 or more times per day.
- In 2019, 27.0 percent of Kansas adults 18 years and older met physical activity guidelines.
- In 2019, 28.1 percent of Kansas adolescents aged 13-17 years received the recommended (3 or more) doses of the HPV vaccine.
- In 2017, 24.0 percent of Kansas adults 18 years and older always or nearly always used sunscreen or sun-block when they stayed outside on a sunny day for more than an hour. The percentages were lower among males; adults aged 18 to 24, 25 to 34, or 65 years and older; African Americans; those with lower education levels; those whose annual household income was less than \$50,000, those who live without a disability, and those who live in rural counties.
- In 2017, 3.3 percent of Kansas adults 18 years and older used tanning or sunlamps within the past 12 months. The percentages were higher among females, adults younger than 65 years, those with lower education levels, those with annual household income \$50,000 or more, and those living without a disability.

Sharing Family History with Health Care providers and Genetic Counseling

- In 2019, 92.6 percent of Kansas adults 18 years and older who actively collected family history of chronic diseases including cancer have shared their history with their healthcare providers. The percentages were lower among adults aged 18-24 years compared to those aged 65 years and older, and among adults without health insurance.
- In 2019, 12.9 percent of Kansas adults 18 years and older who have a family history of cancer have received genetic counseling for cancer. The percentages of Kansans who received genetic counseling were lower among males, adults aged 25-34 years, and adults living without a disability.

Cancer Survivorship

- In 2019, 7.7 percent of Kansas adults 18 years and older reported they currently have cancer (excluding skin cancer).
- In 2019, the adjusted percentages of Kansans who self-reported fair/poor health, those living with disability, physically unhealthy for 14 days or more in the past month, and those with poor health interfered with usual activities for 14 days or more in the past month were significantly higher among adults with cancer as compared to those without cancer.
- During 2016-2018, the percentage of cancer survivors who received a summary of their treatment ranged from 41.3 percent (2017) to 48.7 percent (2016).
- During 2016-2018, the percentage of cancer survivors who received a survivorship care plan ranged from 70.0 percent (2017) to 77.1 percent (2016). The great majority of those who received a survivorship care plan (77.0%-79.6%) received it written down or printed on paper format.

- During 2016-2018, insurance paid for all or part of cancer treatment for most of Kansas cancer survivors (94.9%-97.1%) with their most recent diagnosis of cancer, and a small percentage of Kansas cancer survivors were denied insurance because of cancer (6.7%-8.3%).
- In 2018, only 2.5 percent of cancer survivors in Kansas were unable to obtain cancer screening due to cost, while about 11.0 percent were unable to obtain a recommended cancer screening testing due to cost, and about 9.0 percent of cancer survivors went in a financial hardship due to cancer, treatment, or late effects of treatment.
- The percentage of cancer survivors who participated in a clinical trial during their course of treatment ranged from 3.1 percent (2018) to 6.3 percent (2017).
- During 2016-2018, the percentages of cancer survivors who had pain caused by cancer or cancer treatment ranged from 8.1 percent (2016) to 10.0 percent (2018). The majority of those who had pain got their pain under control (72.3%-78.6%) with or without medication.