

CHAPTER 6: PROFILES OF SELECTED CANCERS – CERVICAL

The cervix is the lower, narrow end of the uterus. The human papillomavirus (HPV) is the main cause of cervical cancer. Cervical cancer is highly preventable due to the availability of the screening tests and vaccination against HPV infections.⁸

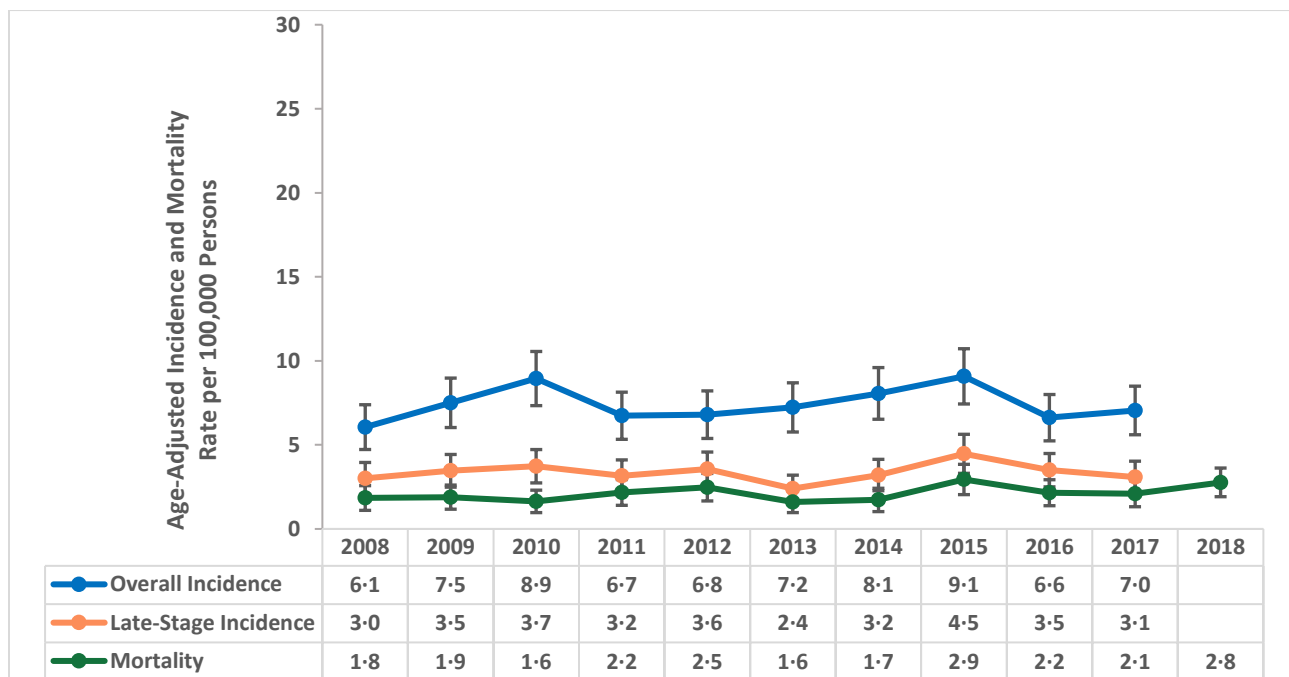
Cervical Cancer Incidence and Mortality

On average, each year approximately 100 cervical cancers are diagnosed among Kansas females, and about half of them are diagnosed in late-stage. In addition, approximately 60 Kansas females die



of the disease annually. The age-adjusted cervical cancer overall incidence, late-stage incidence, and mortality rates remained stable during the period 2008-2018 (Figure 6-1). In 2017, the age-adjusted overall incidence rate was 7.0 cases per 100,000 females (95% Confidence Interval (CI): 5.6 to 8.5), and the age-adjusted late-stage incidence rate was 3.1 cases per 100,000 females (95% CI: 2.1 to 4.0) (Figure 6-1). In addition, the age-adjusted cervical cancer mortality rate in 2018 was 2.8 deaths per 100,000 females (95% CI: 1.9 to 3.6) (Figure 6-1).

Figure 6-1. Age-adjusted cervical cancer incidence and mortality rates, Kansas 2008-2018



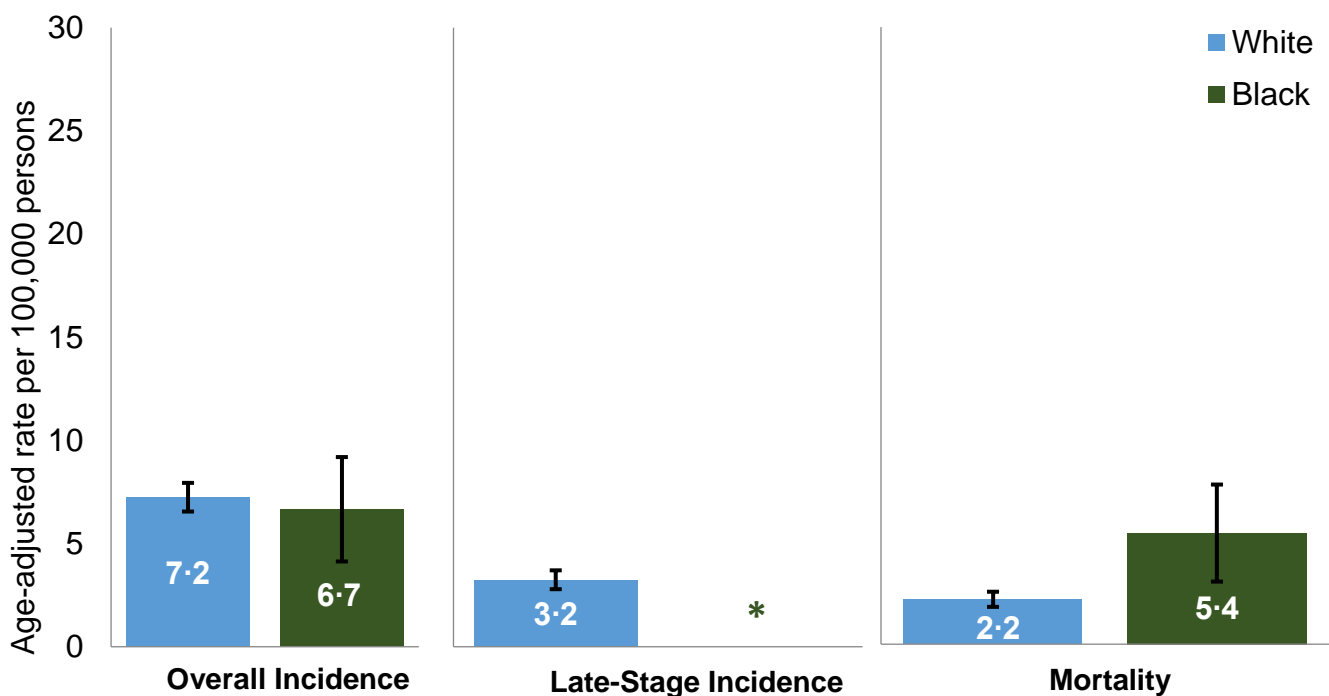
Source: 2008-2017 Kansas Cancer Registry. 2008-2018 Kansas Vital Statistics, Bureau of Epidemiology and Public Health Informatics, KDHE. Cancer incidence data for 2013 and 2014 were not available at the time the document was created. Rates were age-adjusted to the U.S. 2000 standard population using the direct method. See Technical Appendix for details on how rates were calculated. Vertical bars indicate 95% CIs. Cervical cancer incidence was defined as SEER Site Recode ICD-O-3 codes/WHO 2008 definition 27010 with a behavior code indicating invasive malignancy. Cervical cancer mortality was defined as ICD-10 code C53. The average Annual Percent Change (APC) in the annual rates was calculated using the Joinpoint software; see Technical Appendix for more details on trend analysis.

⁸ "Cervical Cancer." Division of Cancer Prevention and Control, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention. www.cdc.gov/cancer/cervical/index.htm. Accessed September 6, 2020

Cervical Cancer Incidence and Mortality among Race Groups

In Kansas, the age-adjusted cervical cancer overall incidence rate did not differ significantly between White women (7.2 cases per 100,000 females; 95% CI: 6.6 to 7.9) and African American women (6.7 cases per 100,000 females; 95% CI: 4.1 to 9.2) during the period 2013-2017 (Figure 6-2). However, the age-adjusted cervical cancer mortality rate was significantly higher for African American Kansas women (5.4 deaths per 100,000 females; 95% CI: 3.0 to 7.8) compared with white Kansas women (2.2 deaths per 100,000 females; 95% CI: 1.8 to 2.6) during the period 2014-2018 (Figure 6-2). Due to the small number of late-stage cervical cancer cases among racial groups other than White during the most recent 5-year period, racial comparisons cannot be made.

Figure 6-2. Age-adjusted cervical cancer incidence and mortality rates among race groups, Kansas 2013-2018

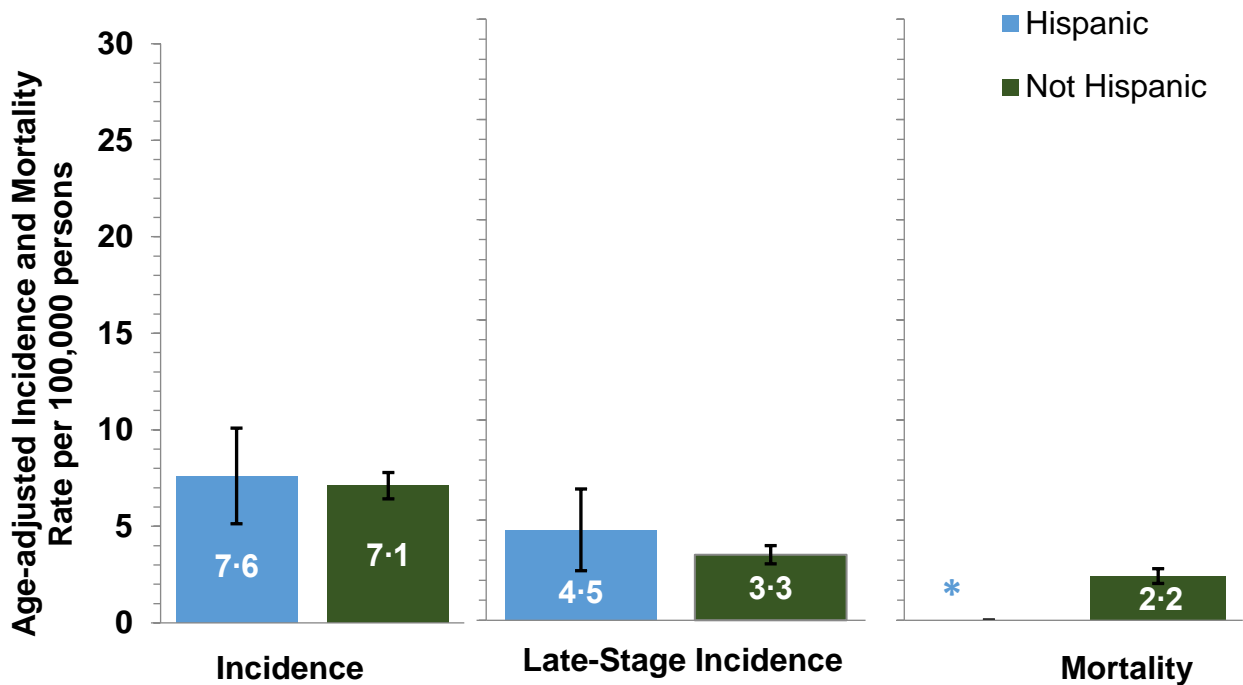


Source: 2013-2017 Kansas Cancer Registry. 2014-2018 Kansas Vital Statistics, Bureau of Epidemiology and Public Health Informatics, KDHE. * denotes that the rate is not reported due to insufficient number of cases. Rates were age-adjusted to the U.S. 2000 standard population using the direct method. See Technical Appendix for details on how rates were calculated. Vertical bars indicate 95% CIs. Cervical cancer incidence was defined as SEER Site Recode ICD-O-3 codes/WHO 2008 definition 27010 with a behavior code indicating invasive malignancy. Cervical cancer mortality was defined as ICD-10 code C53.

Cervical Cancer Incidence and Mortality among Ethnic Groups

In Kansas, the age-adjusted cervical cancer overall incidence rate did not differ significantly between Hispanic females (7.6 cases per 100,000 females; 95% CI: 5.1 to 10.1) and non-Hispanic females (7.6 cases per 100,000 females; 95% CI: 5.1 to 10.1) during the period 2013-2017 (Figure 6-3). Additionally, the age-adjusted cervical cancer late-stage incidence rate did not differ significantly between Hispanic females (4.5 cases per 100,000 females; 95% CI: 2.5 to 6.6) and to non-Hispanic females (3.3 cases per 100,000 females; 95% CI: 2.8 to 3.7) during the period 2013-2017 (Figure 6-3). The age-adjusted breast cancer mortality rate among non-Hispanic females was 2.2 cases per 100,000 females; 95% CI: 1.8 to 2.6) during the period 2014-2018 in Kansas (Figure 6-3). The mortality rate for Hispanic females in Kansas is not shown because the number of deaths was insufficient for computing a statistically reliable rate for this ethnic group.

Figure 6-3. Age-adjusted cervical cancer incidence and mortality among ethnic groups, Kansas 2013-2018.

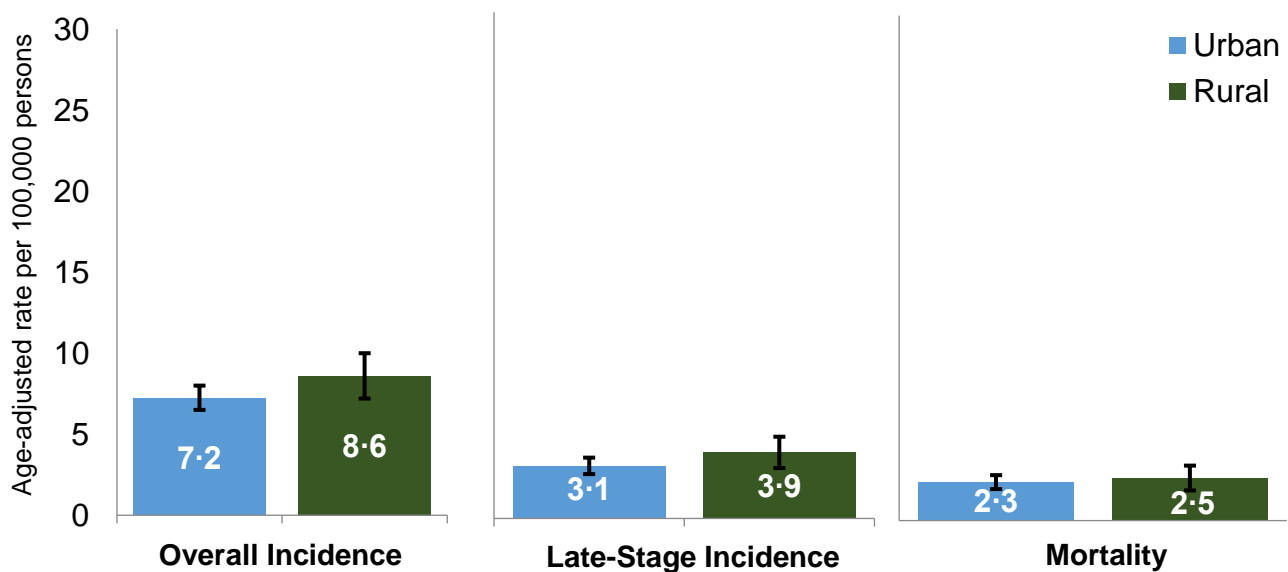


Source: 2013-2017 Kansas Cancer Registry. 2014-2018 Kansas Vital Statistics, Bureau of Epidemiology and Public Health Informatics, KDHE. * denotes that the rate is not reported due to insufficient number of cases. Rates were age-adjusted to the U.S. 2000 standard population using the direct method. See Technical Appendix for details on how rates were calculated. Vertical bars indicate 95% CIs. Cervical cancer incidence was defined as SEER Site Recode ICD-O-3 codes/WHO 2008 definition 27010 with a behavior code indicating invasive malignancy. Cervical cancer mortality was defined as ICD-10 code C53. Hispanics were defined as persons of Mexican, Puerto Rican, Cuban, South or Central American, Other Spanish, Spanish not otherwise specified, or Dominican Republic ethnicity. Persons with Spanish surname only or unknown ethnicity were excluded.

Cervical Cancer Incidence and Mortality among County Population Density Groups

The age-adjusted cervical cancer overall incidence rate did not differ significantly between Kansas females living in urban counties (7.2 cases per 100,000 persons; 95% CI: 6.5 to 8.0) and Kansas females living in rural counties (8.6 cases per 100,000 persons; 95% CI: 7.2 to 10.0) during the period 2013-2017 (Figure 6-4). Similarly, the age-adjusted cervical cancer late-stage incidence rate did not differ significantly between Kansas females living in urban counties (3.1 cases per 100,000 persons; 95% CI: 2.6 to 3.6) and Kansas females living in rural counties (3.9 cases per 100,000 persons; 95% CI: 3.0 to 4.8) during the period 2013-2017 (Figure 6-4). Additionally, the age-adjusted breast cancer mortality rate did not differ significantly between Kansas females living in urban counties (2.3 cases per 100,000 persons; 95% CI: 1.9 to 2.9) and Kansas females living in rural counties (2.5 cases per 100,000 persons; 95% CI: 1.8 to 3.3) during the period 2014-2018 (Figure 6-4).

Figure 6-4. Age-adjusted cervical cancer incidence and mortality rates among county population density peer groups, Kansas 2013-2018



Source: 2013-2017 Kansas Cancer registry. 2014-2018 Kansas Vital Statistics, Bureau of Epidemiology and Public Health Informatics, KDHE. Rates were age-adjusted to the U.S. 2000 standard population using the direct method. See Technical Appendix for details on how rates were calculated. County population density peer groups are based on the population for each county in the 2000 population; the Rural counties included Frontier (fewer than 6 persons per square mile), Rural (6 to 19.9 persons per square mile), Densely-Settled Rural (20 to 39.9 persons per square mile), while the Urban counties included Semi-Urban (40 to 149.9 persons per square mile), and Urban (150 or more persons per square mile). Vertical bars indicate 95% CIs. Cervical cancer incidence was defined as SEER Site Recode ICD-O-3 codes/WHO 2008 definition 27010 with a behavior code indicating invasive malignancy. Cancer mortality was defined as ICD-10 codes C53.

Cervical Cancer Incidence and Mortality among Kansas Counties

The age-adjusted cervical cancer incidence rates are only available for four counties: Johnson, Sedgwick, Shawnee, and Wyandotte. The rates were 4.7, 9.3, 7.0, and 12.2 cases per 100,000 women, respectively. The age-adjusted cervical cancer mortality rates are only available for two counties: Sedgwick and Wyandotte. The rates were 2.6 and 5.3 cases per 100,000 women.

Source: 2013-2017 Kansas Cancer Registry. 2014-2018 Kansas Vital Statistics, Bureau of Epidemiology and Public Health Informatics, KDHE. Rates were age-adjusted to the U.S. 2000 standard population using the direct method. See Technical Appendix for details on how rates were calculated. Cervical cancer incidence was defined as SEER Site Recode ICD-O-3 codes/WHO 2008 definition 27010, with a behavior code indicating invasive malignancy. Cervical cancer mortality was defined as ICD-10 code C53.