

HUMAN PAPILLOMAVIRUS AND CANCER RISK

Human papillomavirus (HPV) is the most common sexually transmitted infection in the United States. Sexually transmitted HPVs fall into two categories: low-risk HPVs, which do not cause cancer and high-risk or oncogenic HPVs, which can cause cancer. At least a dozen high-risk HPV types have been identified. Two of these, HPV types 16 and 18, are responsible for the majority of HPV-caused cancers. Based on the data from 2014-2018, each year more than 25,000 HPV-associated cancers occur in women and about 20,000 HPV-associated cancers occur in men. Virtually all of cervical cancers are caused by HPV infection, and it is estimated that over 90% of anal cancers, 75% of vaginal cancers, 70% of oropharyngeal cancers, 70% of vulvar cancers and 60% of penile cancers are also associated with HPV infection. In the United States, cervical cancer is the most common HPV-related cancer among women and oropharyngeal cancer is the most common HPV-related cancer among men. The Food and Drug Administration (FDA) has approved three HPV vaccines that are highly effective in preventing infections with HPV types 16 and 18. In this report, incidence data from 2004-2023 for Kansas residents are presented for selected invasive HPV-associated cancers of the oropharynx, anus (including rectum), cervix, vagina, vulva and penis.

REFERENCES

- Centers for Disease Control and Prevention. Cancers Associated with Human Papillomavirus, United States – 2014-2018. Available from https://www.cdc.gov/united-states-cancer-statistics/?CDC_AAref_Val=https://www.cdc.gov/cancer/uscs/about/data-briefs/no26-hpv-assoc-cancers-UnitedStates-2014-2018.htm.
- National Cancer Institute. HPV and Cancer Fact Sheet. Available from <http://www.cancer.gov/cancertopics/factsheet/Risk/HPV>.
- Human Papillomavirus (HPV) Vaccines. Available from <https://www.cancer.gov/about-cancer/causes-prevention/risk/infectious-agents/hpv-vaccine-fact-sheet>.
- Jemal A, Simard EP, Dorell C, Noone AM, Markowitz LE, Kohler B, Ehemann C, Saraiya M, Bandi P, Saslow D, Cronin KA, Watson M, Schiffman M, Henley SJ, Schymura MJ, Anderson RN, Yankey D, and Edwards BK. Annual Report to the Nation on the Status of Cancer, 1975-2009, Featuring the Burden and Trends in HPV-Associated Cancers and HPV Vaccination Coverage Levels. J Natl Ca Inst 2013 Feb;105(3). Epub 2013 Jan 7.
- Watson, M., Saraiya, M., Ahmed, F., Cardinez, C. J., Reichman, M. E., Weir, H. K. and Richards, T. B. (2008), Using population-based cancer registry data to assess the burden of human papillomavirus-associated cancers in the United States: Overview of methods. Cancer, 113: 2841–2854. doi: 10.1002/cncr.23758

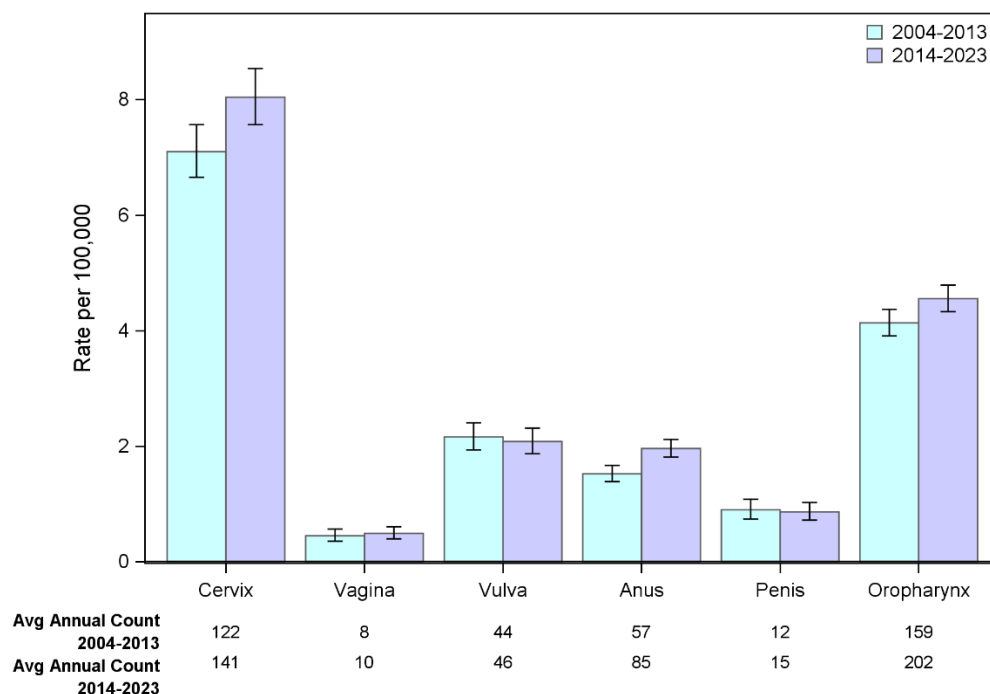
Definitions for HPV-associated cancers

Site	ICD-O-3 Site Codes	ICD-O-3 Histology Codes
Cervix	C53.0, C53.1, C53.8, C53.9	All carcinomas (8010-8671, 8940-8941)
Vagina	C52.9	Squamous cell carcinomas (8050-8084, 8120-8131)
Vulva	C51.0, C51.1, C51.2, C51.8, C51.9	Squamous cell carcinomas (8050-8084, 8120-8131)
Anus (including rectum)	C21.0, C21.1, C21.2, C21.8, C20.9	Squamous cell carcinomas (8050-8084, 8120-8131)
Penis	C60.0, C60.1, C60.2, C60.8, C60.9	Squamous cell carcinomas (8050-8084, 8120-8131)
Oropharynx (including base of tongue, tonsils and other oropharynx)	C01.9, C02.4, C02.8, C05.1, C05.2, C09.0, C09.1, C09.8, C09.9, C10.0, C10.1, C10.2, C10.3, C10.4, C10.8, C10.9, C14.0, C14.2, C14.8	Squamous cell carcinomas (8050-8084, 8120-8131)

Reference: HPV-Associated Cancer Statistics. Available from <https://www.cdc.gov/cancer/hpv/>

Age-adjusted incidence rates for all sites are presented below. Due to small case counts for many of the HPV-associated cancer sites, detailed analyses are presented only for HPV-associated cervical cancer and male oropharyngeal cancer.

Age-Adjusted* Incidence Rates for Invasive HPV-Associated Cancers, Kansas, 2004-2023.

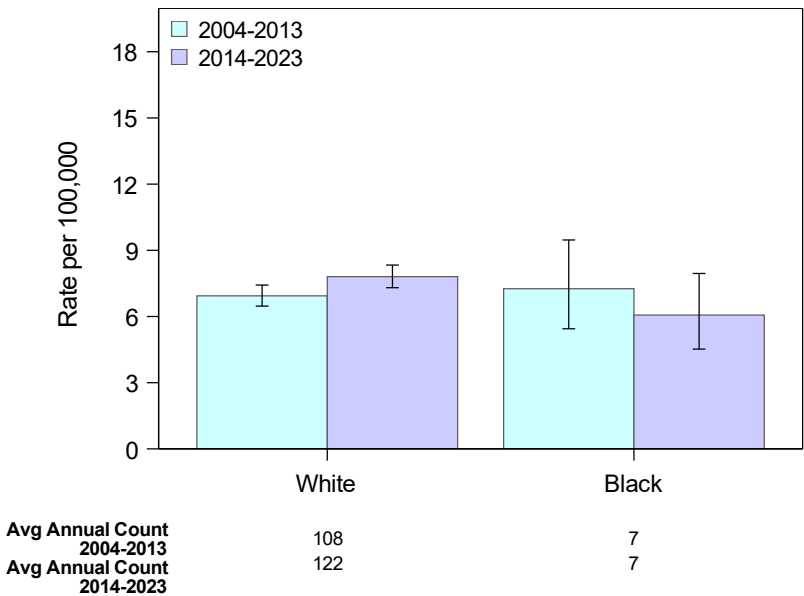


*Age-adjusted using the 2000 U.S. Standard Population.

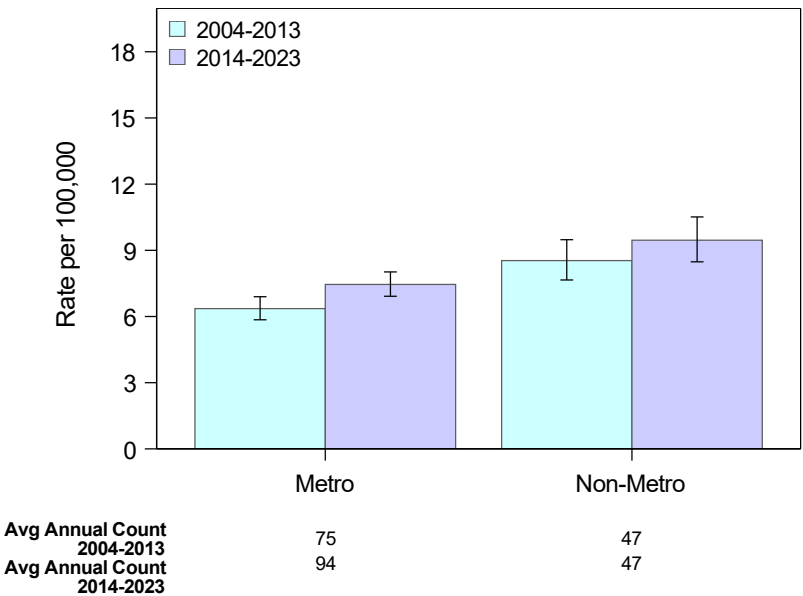
Suggested citation: Kansas Cancer Registry, Human Papillomavirus (HPV)-Associated Cancers, 2004-2023

Invasive HPV-Associated Cervical Cancer in Kansas, 2004-2023

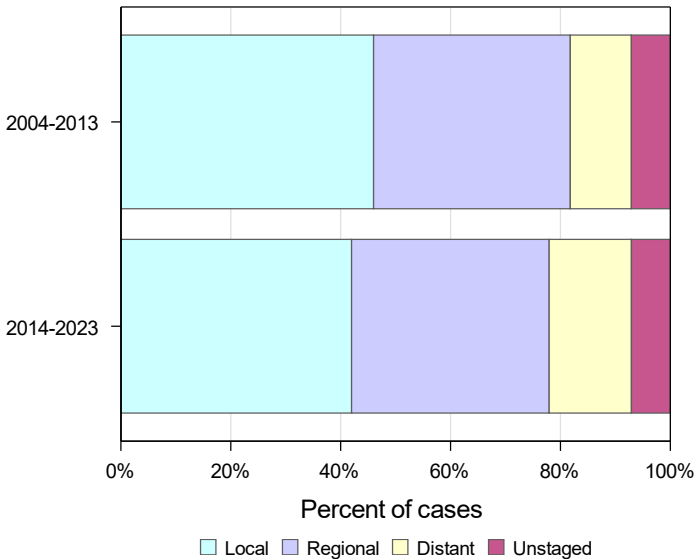
Age-Adjusted Incidence Rates by Race



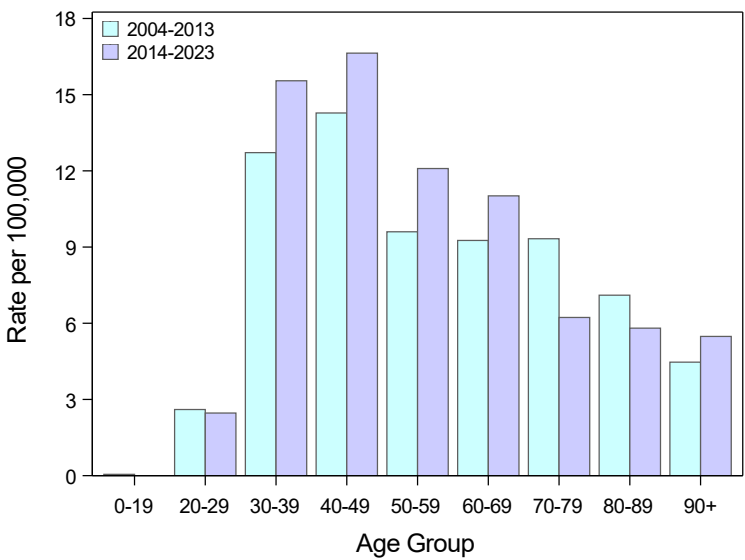
Age-Adjusted Incidence Rates by Residence



Stage at Diagnosis



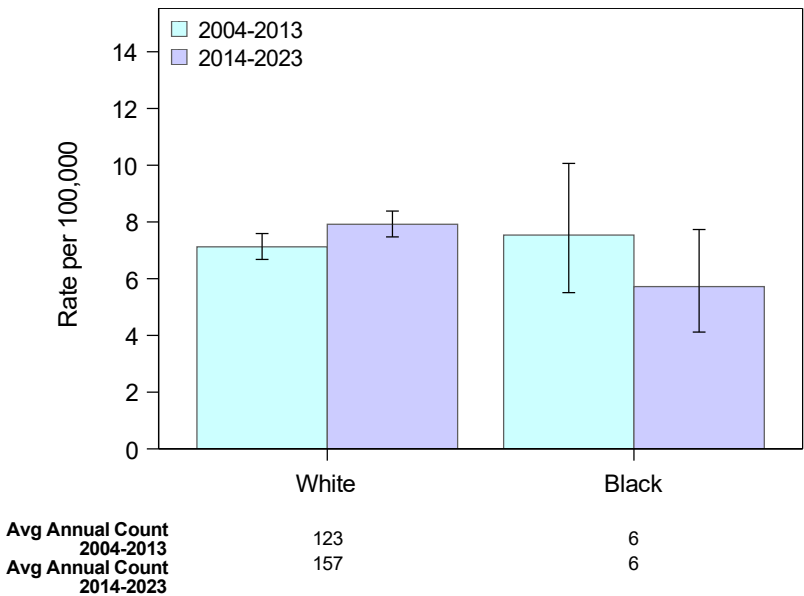
Age-Specific Incidence Rates



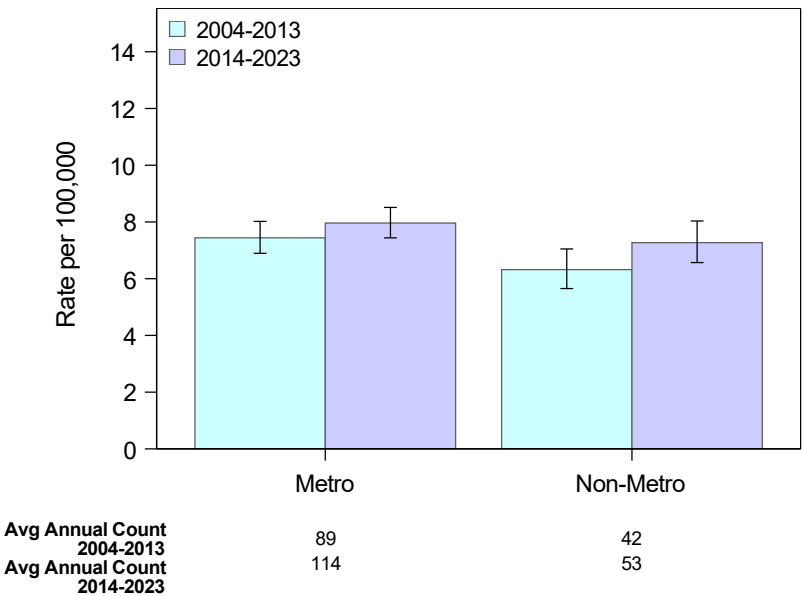
Rates are per 100,000 population. Age-adjusted rates calculated using the 2000 U.S. Standard Population.
Suggested citation: Kansas Cancer Registry, Human Papillomavirus (HPV)-Associated Cancers, 2004-2023

Invasive Male HPV-Associated Oropharyngeal Cancer in Kansas, 2004-2023

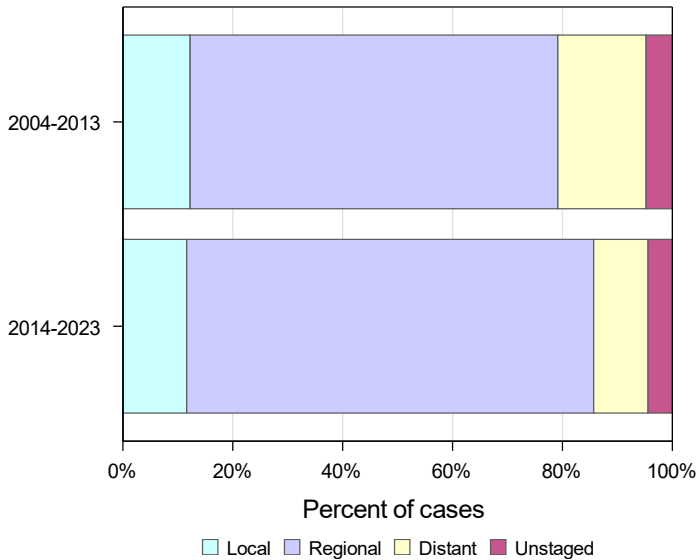
Age-Adjusted Incidence Rates by Race



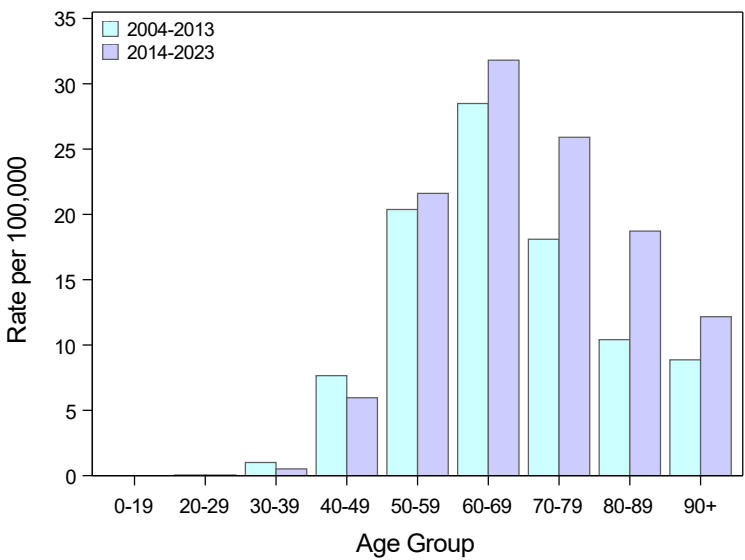
Age-Adjusted Incidence Rates by Residence



Stage at Diagnosis



Age-Specific Incidence Rates



Rates are per 100,000 population. Age-adjusted rates calculated using the 2000 U.S. Standard Population.
Suggested citation: Kansas Cancer Registry, Human Papillomavirus (HPV)-Associated Cancers, 2004-2023