USCS U.S. Cancer Statistics Data Brief

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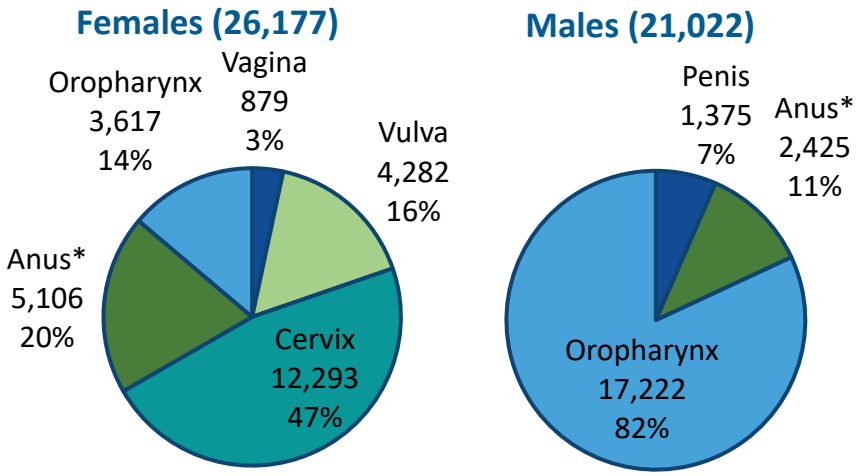
Cancers Associated with Human Papillomavirus, United States—2015–2019

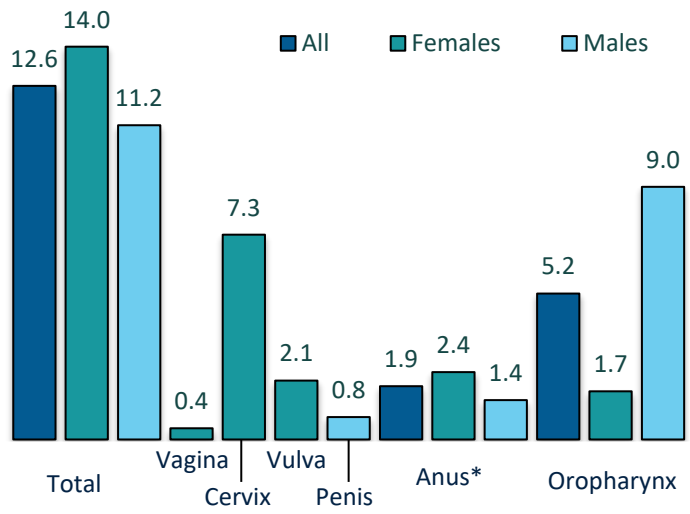
According data from 2015 to 2019, an estimated 47,199 new cases of human papillomavirus (HPV)-associated cancers occurred in the United States each year, including 26,177 among women and 21,022 among men. Cervical cancer is the most common HPV-associated cancer among women, and oropharyngeal cancers (cancers of the back of the throat, including the base of the tongue and tonsils) are the most common among men.

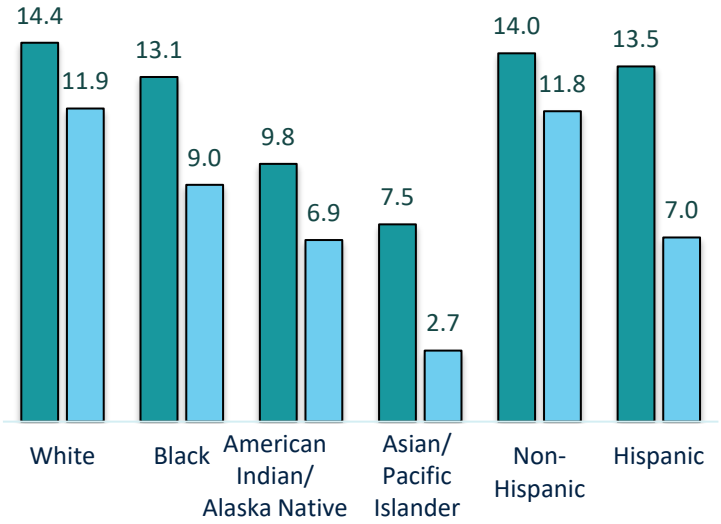
HPV is a recognized cause of cancer. Although most HPV infections are asymptomatic and clear spontaneously, persistent infections can progress to precancer or cancer. HPV causes most cervical cancers, as well as some cancers of the vagina, vulva, penis, anus, and oropharynx. Cancer registries do not routinely collect information about HPV status, so in this report, **HPV-associated cancers** are defined as those that occur in parts of the body where HPV is often found.



Rate of HPV-associated cancers by a) sex and cancer type and b) sex and race/ethnic group

The incidence rate of HPV-associated cancers varied by cancer type, sex, and race/ethnic group. Women had higher incidence than men, except for the oropharynx site. White men and women had the highest incidence rates compared with other racial groups, and Asian/Pacific Islander men and women had the lowest incidence rates





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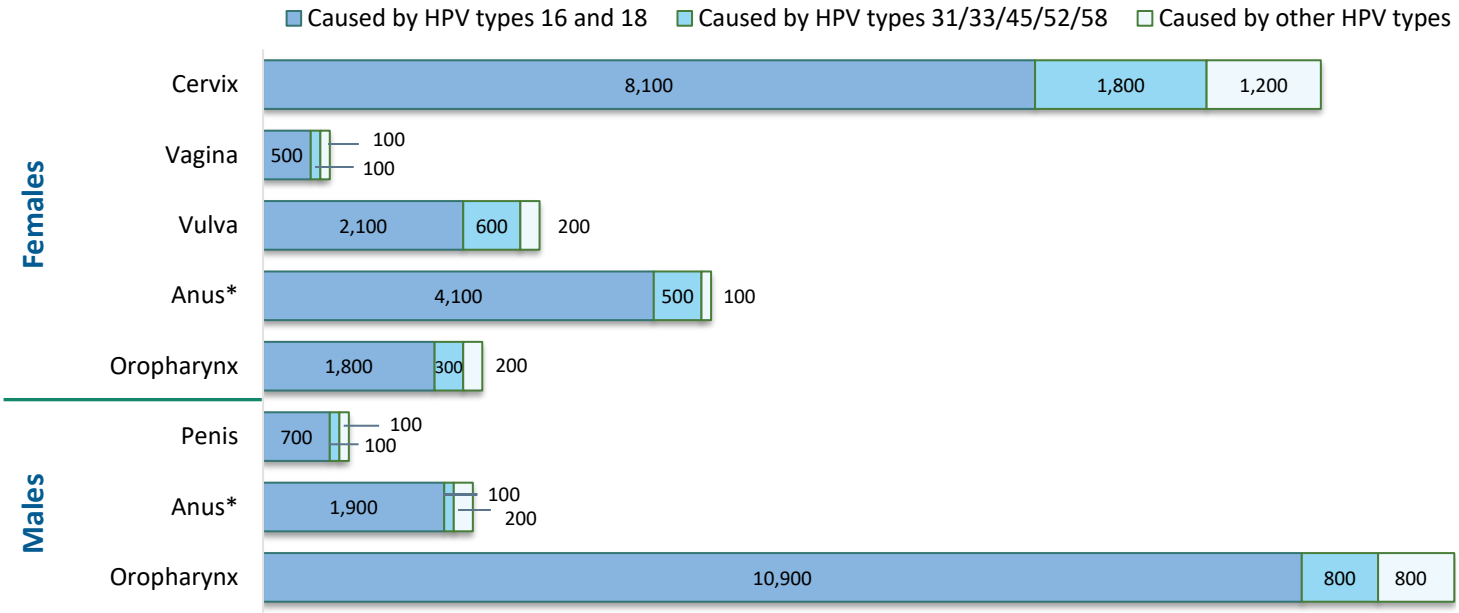
Estimated Annual Number of Cancer Cases Attributable to HPV by Sex, Cancer Type, and HPV type



An **HPV-attributable** cancer is a cancer probably caused by HPV. HPV-attributable cancers are estimated by multiplying the number of HPV-associated cancers by the percentage attributable to HPV according to a CDC genotyping study. We estimated that 37,300 cancers (79%) were attributable to HPV each year during 2015 to 2019. Of these, we estimated that 34,400 cancers could have been prevented by the 9-valent HPV vaccine, including 30,100 caused by HPV types 16 and 18 and 4,300 caused by HPV types 31,33,45,52,58. HPV-negative cancers are not shown in the graph; it is estimated that about 10% of cervical and anal cancers, 30% of oropharyngeal, vaginal, and vulva cancers and 40% of penile cancers are HPV-negative.

HPV vaccination is recommended for girls and boys 11 to 12 years old, and catch-up HPV vaccination for all adults through age 26 years. Catch-up vaccination is not recommended for people who are 27 years old or older because the benefit of HPV vaccination decreases in older age groups; but vaccination can be based on shared clinical decision making for people who are 27 to 45 years old.

Data Source

Data in this brief come from U.S. Cancer Statistics, the official federal cancer statistics.

U.S. Cancer Statistics incidence data are from population-based registries that participated in CDC's National Program of Cancer Registries or the National Cancer Institute's Surveillance, Epidemiology, and End Results Program and met high-quality data for the 2021 data submission period, covering 99% of the U.S. population (excluding data from Nevada). Population-based cancer registries do not routinely collect information about HPV status; however, the data can be used to monitor the number of cancers associated with HPV and *estimate* the number probably caused by HPV. The analysis and methods were based on: Viens et al. Human Papillomavirus- Associated Cancers—United States, 2008–2012. MMWR 2016;65(26):661-666.

An ***HPV-associated cancer*** is a specific cellular type of cancer that is diagnosed in a part of the body where HPV is often found including the cervix, vagina, vulva, penis, anus, and oropharynx.

An ***HPV-attributable cancer*** is a cancer probably caused by HPV. Based on a CDC study that used population-based data to genotype HPV types from cancer tissue, about 90% of cervical and anal cancers, 70% of oropharyngeal, vaginal, and vulvar cancers, and 60% of penile cancers are attributable to HPV.

*Includes anal and rectal squamous cell carcinomas.

Suggested Citation

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