

HPV-Associated Cancers and Prevention in New Jersey

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HPV-associated cancers is an umbrella term for several different cancers caused by the Human Papillomavirus (HPV). These include anal cancer, cervical cancer, oropharyngeal cancer [cancers of the back of the throat], penile cancer, vaginal cancer, and vulvar cancer [1]. We use anatomical sites or “those that occur in part of the body...where HPV is often found because cancer registries do not routinely collect information about HPV [infection] status” [2]. Oropharyngeal and anal cancers affect individuals assigned as males and females at birth; cervical, vaginal, and vulvar cancer affect only those assigned female at birth; and penile cancer affects only those assigned male at birth. In the United States (US), 12.6 people out of every 100,000 were diagnosed with HPV-associated cancers from 2017-2021 [3] (**Figure 1**). The incidence rates of specific HPV-associated cancers in the US are shown below in **Figure 1**.

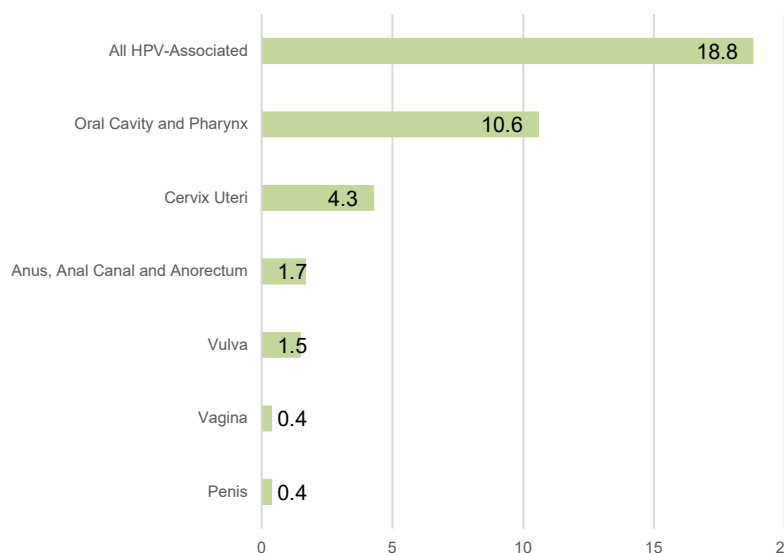


Figure 1. Age-Adjusted Rate of New HPV-associated Cancers by Cancer Type. All HPV-associated Cancers, Male and Female, United States, 2017-2021. Rates per 100,000. Source: *Incidence – SEER Research Plus Data, 17 Registries, Nov 2023 Sub (2000-2021)*.

Since these cancers can be caused by HPV infection, it is important to have a general understanding of how HPV is transmitted from person to person.

HPV is primarily transmitted through intimate skin-to-skin contact, including vaginal–penile sex, penile–anal sex, penile–oral sex, and vaginal–oral sex [4]. Therefore, it is important to practice safe sex as a protective measure against potential HPV infection.

HPV-Associated Cancers in New Jersey

In New Jersey (NJ), the rate of new HPV-associated cancer is similar to that of the US overall. From 2017-2021, this number was 11.5 for every 100,000 people across all populations, with 6,586 cases reported during this time [3]. Below are the new diagnoses rates for each HPV-associated cancer in NJ in females and males by race and ethnicity from 2017-2021 (**Figure 2**).

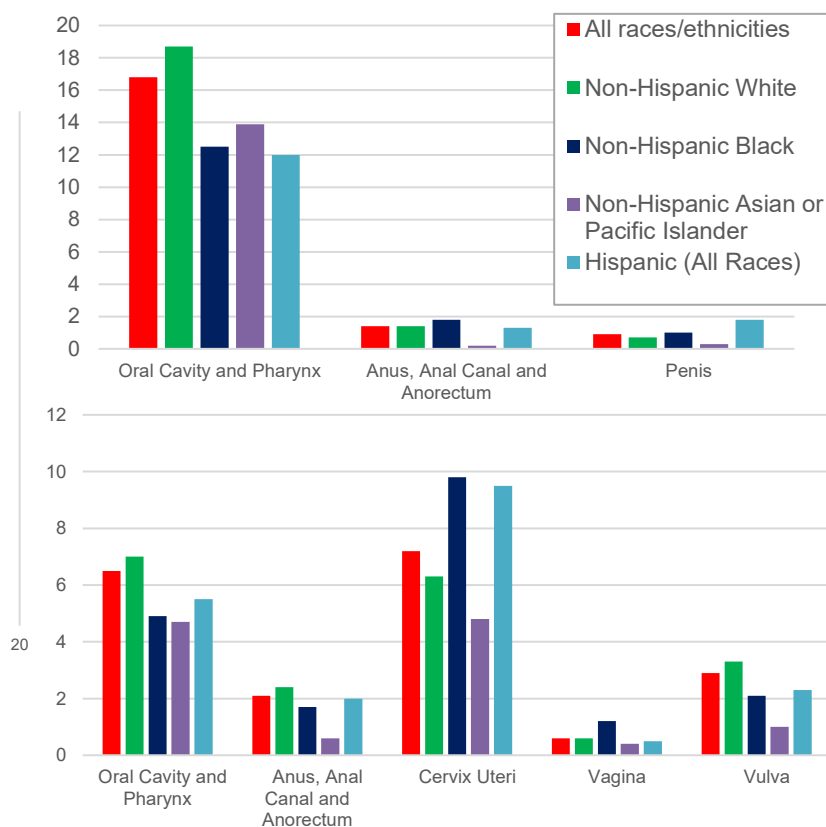


Figure 2. Age-Adjusted Incidence Rates for HPV-Associated Cancers in New Jersey: Males (top) and Females (bottom), 2017-2021. Rates per 100,000. Source: *Incidence – SEER Research Plus Data, 17 Registries, Nov 2023 Sub (2000-2021)*.

HPV-Associated vs. HPV-Attributable

While not every case of HPV-associated cancer in the US or NJ is directly caused by HPV, a vast majority of them are.

Figure 3 shows the probability of HPV-associated cancers being caused by the previous existence of any HPV type in patients and based on the assumption that the probability (percentage) of HPV-associated cancer cases caused by HPV were the same in NJ as the US.

Cancer Site	Number of Cases 2017-2021 (NJ)	% caused by HPV
Cervix	1,734	91 %
Vagina	132	75 %
Vulva	667	69 %
Penis	195	63 %
Anus	1,018	91 %
Female	705	93 %
Male	313	89 %
Oropharynx	2,840	70 %
Female	491	63 %
Male	2,349	72 %
TOTAL	6,586	79 %

Figure 3. Number of HPV-Associated Cancer Cases in NJ from 2017-2021 and probability of these cancers caused by HPV (%). [5]

HPV Vaccination in New Jersey

According to the CDC, over 90% of all HPV-associated cancers reported nationwide are preventable through vaccination [6]. To decrease the cancer burden statewide, there is a need to keep up-to-date with HPV vaccinations to decrease the probability of patients developing HPV-associated cancers.

The CDC recommends that all preteens at ages 11 or 12 are vaccinated and may be vaccinated as early as age 9 [7]. The catch-up vaccination is advised through age 26, and, after consulting with their physician, adults ages 27-45 can have the vaccine administered to them if they are not adequately vaccinated [7]. In NJ, the HPV vaccination coverage among teens aged 13-17 years was 63.7% according to the New Jersey Department of Health (NJDOH) [8].

Figure 4 describes the estimated percentage of male and female teens aged 13-17 who have up-to-date HPV vaccination in females and males in the US and NJ. Males in New Jersey have a higher percentage of up-to-date HPV vaccination than females, but in the US the female percentage is higher than the male percentage.

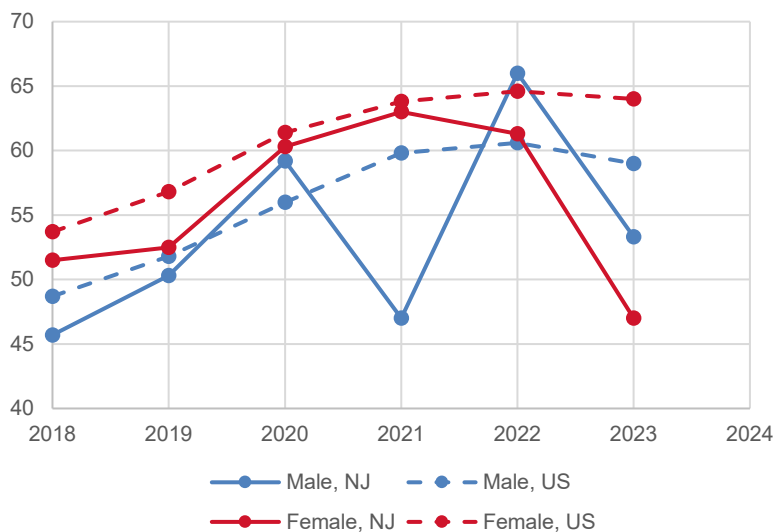


Figure 4. Estimated % of Up-to-Date HPV Vaccination in New Jersey and the United States, 2018-2023. Ages 13-17. Males and Females. [9]

Recent Trends and Outlook

While many of these HPV-associated cancer rates have been increasing in NJ in recent years, HPV vaccination rates have been improving since 2011, according to the NJDOH, despite slight decreases since 2020 [8]. It is strongly recommended by public health sources such as the CDC that individuals stay up-to-date with their HPV vaccinations. According to ScreenNJ, “HPV is estimated to cause nearly 36,000 cases of cancer in [males] and [females] every year in the United States. HPV vaccination can prevent 33,000 of these cancers by preventing the infections that cause them” [10]. In terms of screening for HPV-associated cancers, cervical cancer is the only one for which FDA-approved screening tests are currently available. However, according to the Mayo Foundation for Medical Education and Research, dental offices and some doctor offices can routinely perform examinations to screen for oral cancer based on an individual’s risk factors regarding the disease [11]. More information regarding screening procedures and requirements can be found at <https://screennj.org/hpv-related-cancer-screening-and-prevention/>.

For more information about Rutgers Cancer Institute Cancer Health Equity Center of Excellence, [click here](#) or visit <https://www.cinj.org/outreach/cancer-health-equity-center-excellence>.

For more information regarding screening guidelines, recommendations, and other resources, refer to the following links:

[Cancer Screening Recommendations](#) from the United States Preventive Services Task Force (USPSTF):

https://www.uspreventiveservicestaskforce.org/uspstf/topic_search_results?topic_status=P&category%5B%5D=15&searchterm=

[Cancer Screening Guidelines](#) from the American Cancer Society (ACS): <https://www.cancer.org/cancer/screening/american-cancer-society-guidelines-for-the-early-detection-of-cancer.html>.

[ScreenNJ](#) for prevention, education, and detection information: <https://screennj.org/>.

For information regarding Rutgers Cancer Institute clinical trials (what is open, at which sites, general clinical trials page, interest in diversity in clinical trials, etc.) [click here](#) or visit <https://www.cinj.org/clinical-trials/find-clinical-trial>.

Link to Fact Sheet References: https://go.rutgers.edu/cancerfacts_reference