



### Key Facts

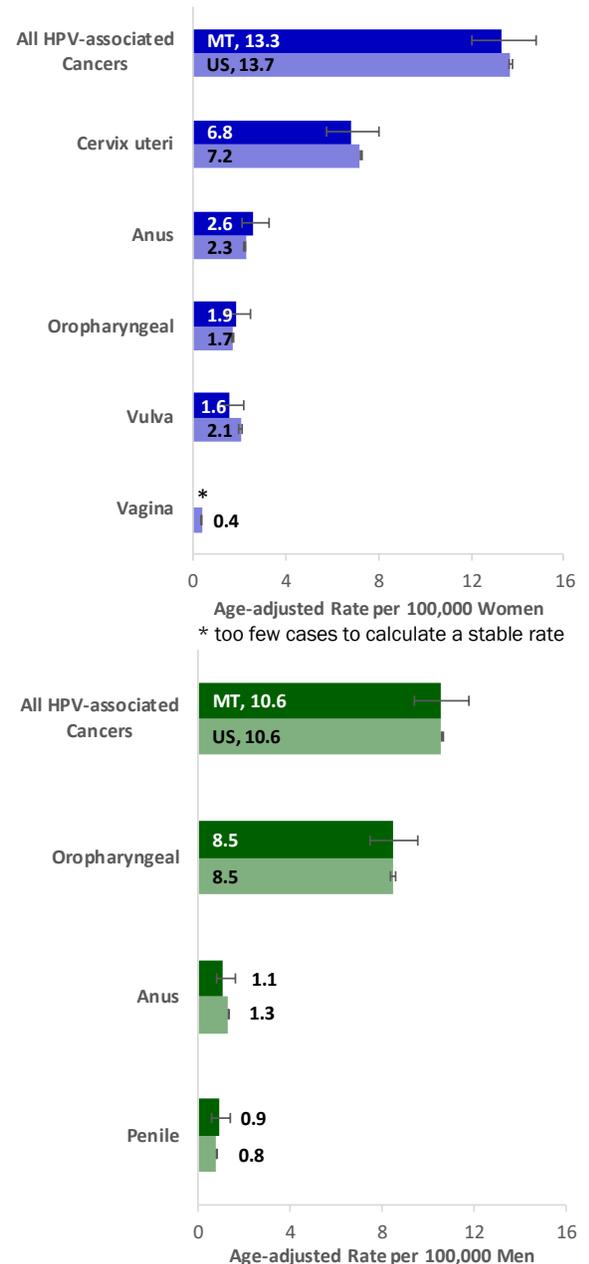
- HPV-associated cancers are more common in women than men.
- Rates of HPV-associated cancers are increasing among Montana men.
- The HPV vaccine protects against the 7 oncogenic types that cause 92% of HPV positive cancers.
- Only 53% of Montana girls and 44% of Montana boys had completed the HPV vaccine series in 2018.
- Women aged 21 to 65 should have regular cervical cancer screening tests even if they have received the HPV vaccine
- Only 77% of Montana women met cervical cancer screening recommendations in 2018.

## Human Papillomavirus (HPV) is a Preventable Cause of Cancer in both Men and Women

Human Papillomavirus (HPV) is a large group of viruses with more than 120 types.<sup>1</sup> Infection with HPV is very common in sexually active people. About 80% of people will get an HPV infection in their lifetime. Most HPV infections resolve on their own but certain types (called oncogenic types) can cause persistent infection and lead to cancer. HPV is the cause of nearly all cases of cervical cancer, 90% of anal cancers, and about 70% of vulvar, vaginal, penile and oropharyngeal cancers.<sup>1</sup>

From 2013 to 2017 there were 750 new cases of HPV-associated cancers in Montana. HPV-associated cancers are more common in women than men (Figure 1). Among women, cervical cancer is the most common HPV-associated cancer; among men, oropharyngeal cancer is the most common. The incidence rate of HPV-associated cancers was the same in Montana as in the total US for both men and women (Figure 1).

**Figure 1.** Incidence (new cases) rate of HPV-associated cancers among **Women** and **Men** in Montana (2013-2017) and the total US (2012-2016).<sup>2</sup>



### Montana Cancer Control Programs

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<http://www.dphhs.mt.gov/publichealth/cancer>

<sup>1</sup> Centers for Disease Control and Prevention. Epidemiology and Prevention of Vaccine-Preventable Diseases. Hamborsky J, Kroger A, Wolfe S, eds. 13th ed. Washington D.C. Public Health Foundation, 2015.

<sup>2</sup> These data were collected by cancer registries participating in the National Program of Cancer Registries (NPCR) of the Centers for Disease Control and Prevention (CDC).



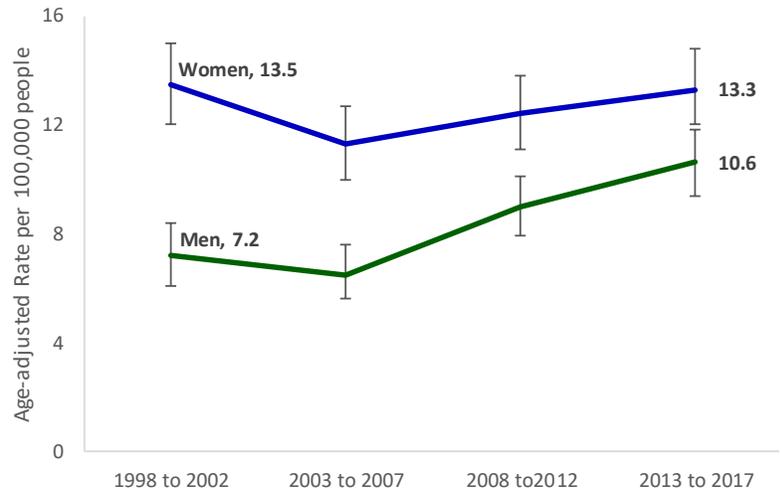
Incidence rate of HPV-associated cancers among Montana women has remained stable at about 13 new cases per 100,000 women since 1998 (Figure 2). The rate of HPV-associated cancers among Montana men increased significantly from 7.2 new cases per 100,000 men from 1998 to 2002 to 10.6 per 100,000 from 2013 to 2017 (Figure 2).

### Preventing HPV-associated Cancers

The best prevention for HPV-associated cancers is the HPV vaccine. The current 9-valent HPV vaccine protects against 7 oncogenic HPV types and 2 non-oncogenic types. The 7 oncogenic types included in the HPV vaccine are estimated to account for 92% of HPV positive cancers.<sup>3</sup>

The HPV vaccine is recommended for all adolescents and can be administered as early as age 9. If the first dose of vaccine is given before the age of 15 only two doses are needed. If the vaccine series is started between the ages of 15 to 26, three doses are needed.<sup>4</sup> Some adults age 27 through 45 years who are not already vaccinated may decide to get HPV vaccine after speaking with their doctor about their risk for new HPV infections and the possible benefits of vaccination. HPV vaccination in this age range pro-

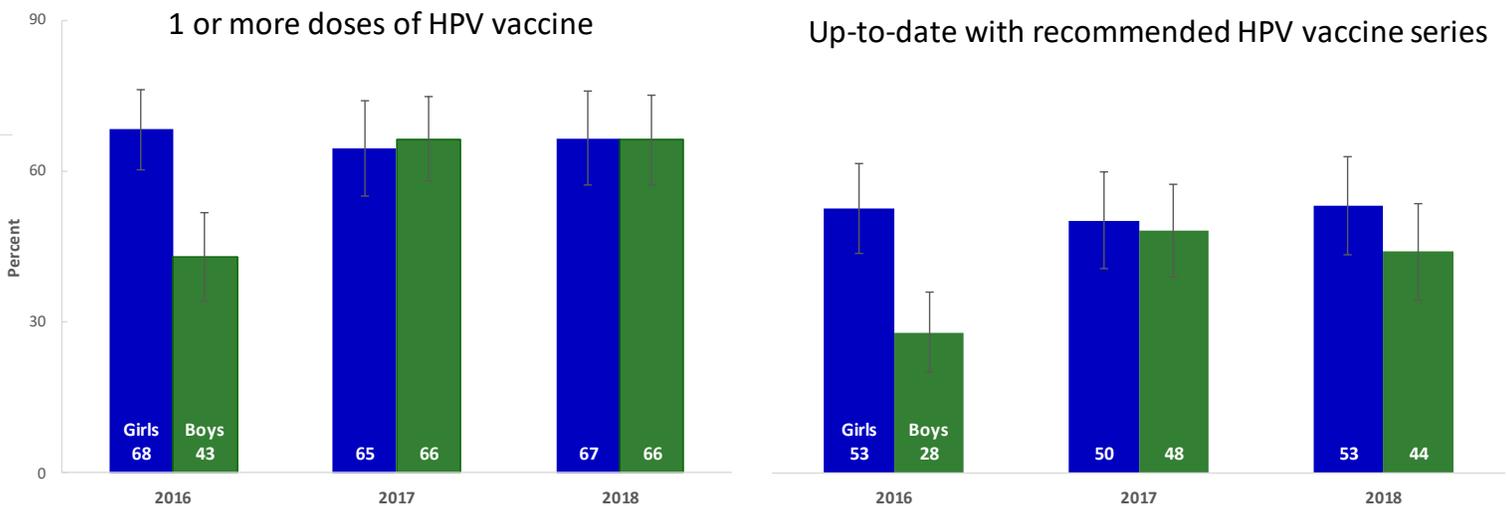
**Figure 2.** Trends in the incidence rate of HPV-associated cancers in Montana from 1998 to 2017.<sup>2</sup>



vides less benefit, as more people have already been exposed to HPV.

About two-thirds of Montana teens had received at least one dose of HPV vaccine in 2018 but only 53% of girls and 44% of boys had completed the series (Figure 3). HPV vaccine coverage has stayed about the same for Montana girls since 2016. Montana boys had a significant increase in HPV vaccine coverage between 2016 and 2017 (Figure 3).

**Figure 3.** HPV vaccine coverage among Montana girls and boys aged 13 to 17, National Immunization Survey, 2016 to 2018



<sup>3</sup> Mona Saraiya, E. Unger, T. Thompson C. et al. US Assessment of HPV Types in Cancers: Implications for Current and 9-Valent HPV Vaccines. J Natl Cancer Inst (2015) 107 (6): djr086.

<sup>4</sup> Centers for Disease Control and Prevention. HPV Vaccine Schedule and Dosing. <https://www.cdc.gov/hpv/hcp/schedules-recommendations.html>



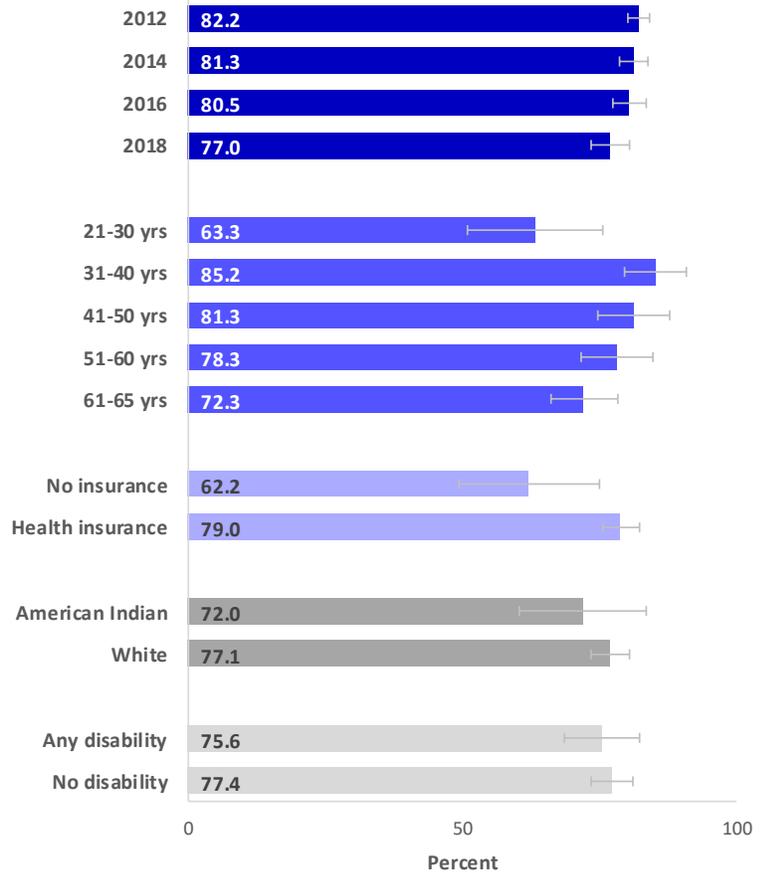
Through the MT TeenVax Challenge, the Montana Immunization Program along with immunization partners work together to promote and increase awareness of adolescent vaccines, focusing on Tdap, meningococcal, HPV, and influenza. For more information about teen vaccinations visit <https://dphhs.mt.gov/publichealth/Immunization/AdolescentVaccines>

Cervical cancer can also be prevented with proper screening. The United States Preventative Services Task Force recommends that average risk women aged 21 to 65 have a Pap smear every 3 years. Women aged 30 to 65 may extend Pap smear testing to every 5 years if HPV testing is done in combination with cytology. In Montana, 77% of women reported meeting this recommendation during 2018 (Figure 4).

The percent of Montana women meeting cervical cancer screening guidelines has decreased significantly since 2012. Additionally, some groups of women have significantly lower screening rates. Young women (aged 21 to 30) had the lowest proportion who met the recommendations. Older women (aged 61 to 65) also had a significantly lower proportion meeting recommendations compared to women age 31 to 40 (Figure 4). Women with no health insurance reported a significantly lower screening rate as well.

The Montana Breast and Cervical Cancer Screening Program can help women access screening tests. Low income women who are under- or uninsured can have their screening tests paid for by the program. All women can receive patient navigation services to help identify where and how to get screening services in their community. To get more information about eligibility and to find the local screening coordinator in your county call 1-800-803-9343.

**Figure 4.** Percent of Montana Women aged 21 to 64 who had a Pap Smear in the past 3 years, Behavioral Risk Factor Surveillance System, 2012 to 2018.



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