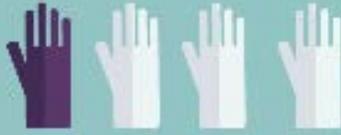


# HPV and Cancer

Between 9 and 26 Years of Age?  
Get Vaccinated to Prevent Cancer

# HPV VACCINE IS CANCER PREVENTION



ABOUT

**1 OUT OF 4**

men and women in the U.S. are currently infected with HPV



ABOUT

**14 MILLION PEOPLE**

become newly infected every year



**9 IN 10**

people will get HPV in their lifetime

## WHAT IS HPV?

Human papillomavirus (HPV) is a very common virus; nearly 80 million people—about one in four—are currently infected in the United States. Most HPV infections (9 out of 10) go away by themselves within two years. But, sometimes, HPV infections will last longer, and can cause certain cancers and other diseases. HPV cancers include cancer of the cervix, vulva, vagina, penis, or anus. HPV infection can also cause cancer in the back of the throat, including the base of the tongue and tonsils. Every year in the United States, HPV causes 30,700 cancers in men and women. HPV vaccination can prevent most of these cancers, about 28,000, from occurring.<sup>1</sup>

## HPV VACCINE

Gardasil-9 is the only HPV vaccine available in the United States. Gardasil-9 prevents infection with HPV types that are associated with many cancers, including: cervical, vaginal and vulvar cancers in females, anal and throat cancer in females and males, and penile cancer in males. In addition, HPV vaccine prevents infection with HPV types that cause genital warts in both females and males.<sup>2</sup>

Adolescent males and females age 11 or 12 years old should get two shots of HPV vaccine six to twelve months apart. Adolescents who receive their two shots less than five months apart will require a third dose of HPV vaccine. Teens and young adults who start the series at ages 15 through 26 years will need three doses of HPV vaccine to protect against cancer-causing HPV infections.<sup>1</sup>

Gardasil-9 is available to eligible adolescents through the Vaccines for Children Program. To learn more about the VFC program visit: <https://doh.sd.gov/family/childhood/immunization/>.

## HPV CANCER SCREENING

Cervical cancer can be detected with routine cervical cancer screening (Pap test) and follow-up of abnormal results. The Pap test is recommended for all women between the ages of 21 and 65 years old, and can be done in a doctor's office or clinic. An HPV DNA test, which can find certain HPV types on a woman's cervix, may also be used with a Pap test in certain cases (called co-testing). The Pap test can find abnormal cells on the cervix so that they can be removed before cancer develops. Abnormal cells often become normal over time, but can sometimes turn into cancer. These cells can usually be treated, depending on their severity and on the woman's age, past medical history, and other test results. Even women who were vaccinated when they were younger need regular cervical cancer screening because the vaccines do not protect against all cervical cancers.<sup>3</sup>

Sources: Centers for Disease Control and Prevention-

<sup>1</sup><https://www.cdc.gov/hpv/parents/vaccine.html>

<sup>2</sup><http://www.who.int/mediacentre/factsheets/fs380/en/> and

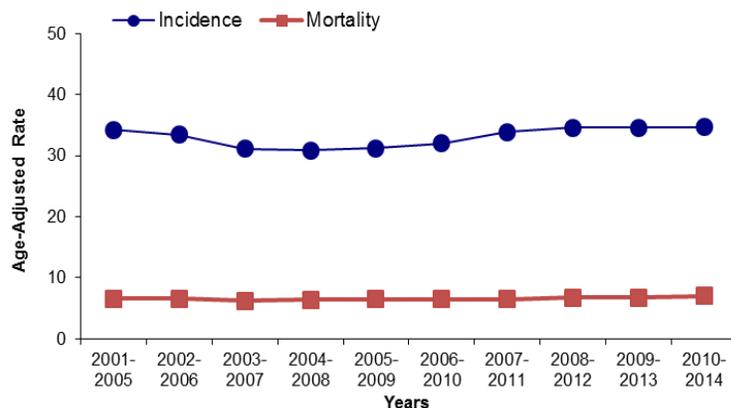
<sup>3</sup>World Health Organization [https://www.cdc.gov/cancer/cervical/basic\\_info/screening.htm](https://www.cdc.gov/cancer/cervical/basic_info/screening.htm)

## SEER Summary Stage of Diagnosis for HPV-Related Cancers, 2001-2014

Primary Site	<i>In situ</i>	Localized	Regional	Distant	Unknown	Total
Anus/Rectum	102	662	488	213	154	1,619
Cervix	* 136	180	116	50	27	509
Head/Neck/Oral	76	890	698	233	181	2,078
Penis	22	47	13	1	6	89
Vagina	25	12	13	4	6	60
Vulva	167	115	55	7	20	364
<b>Total</b>	<b>528</b>	<b>1,906</b>	<b>1,383</b>	<b>508</b>	<b>394</b>	<b>4,719</b>

\**In situ* cervical cancer are not reported in South Dakota  
Source: South Dakota Department of Health

## HPV-Related Cancer Sites Incidence and Mortality Rates, South Dakota, 2001-2014



Rates per 100,000 age-adjusted to 2000 US standard population and SD estimated populations.  
Source: South Dakota Department of Health

### STAGE AT DIAGNOSIS

The earlier the stage of cancer at diagnosis, the better the chances of survival. The table above displays the HPV-related cancers diagnosed in South Dakota by stage of diagnosis and primary cancer site for years 2001-2014. *In situ* cancers are least progressed and distant cancers are most progressed (widespread) throughout the body. The actual number of *in situ* cervical cancer cases is not known in South Dakota or nationwide. According to the National Cancer Institute, 3.5 million abnormal Pap tests are reported each year in the U.S., and require medical follow-up. The CDC attributes almost 100% of cervical cancer cases to HPV, however, the other cancers are less than 100% attributable to HPV.

**1**

**HPV VACCINE IS CANCER PREVENTION**

HPV vaccine protects against HPV types that most commonly cause anal, cervical, oropharyngeal, penile, vaginal, and vulvar cancers.

**MOST OF THESE CANCERS CAN BE PREVENTED BY HPV VACCINE**

**2**

**HPV VACCINE IS RECOMMENDED AT THE SAME TIME AS OTHER ADOLESCENT VACCINES**

Recommended vaccines for adolescents:

- TDAP
- HPV
- MENINGOCOCCAL

**3**

**HPV VACCINE IS BEST FOR BOYS AND GIRLS AGED 11-12 YEARS**

Preteens have a higher immune response to HPV vaccine than older teens.

**11 & 12**

If not previously vaccinated, vaccination is recommended through age 26 for females and through age 21 for males.

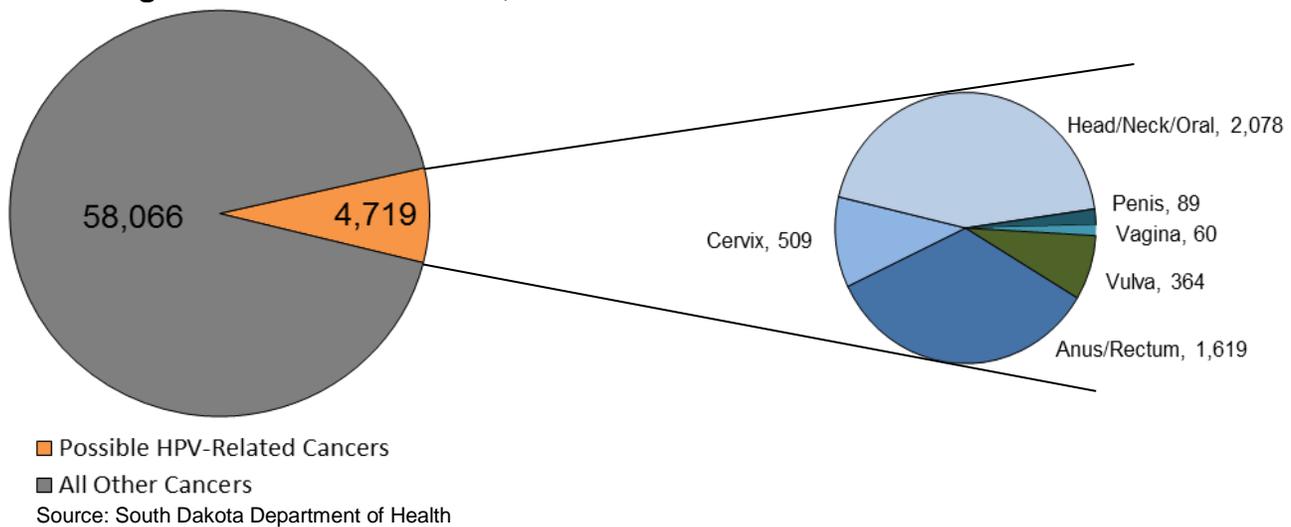
## INCIDENCE

More than 7.5% of all cancers diagnosed in South Dakota from 2001 to 2014 were in a primary site that may have been caused by HPV. According to CDC estimates, the following percentages of cancer are caused by HPV in the U.S.

- 91% Anus/Rectum
- 91% Cervix
- 70% Head/Neck/Oral
- 63% Penis
- 75% Vagina
- 69% Vulva

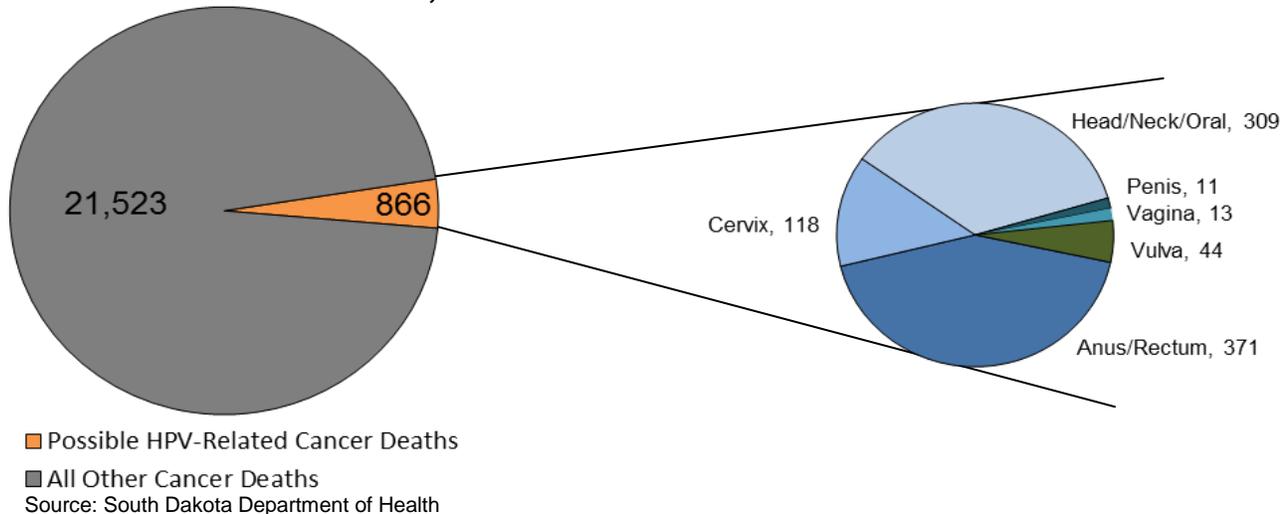
Applying these same percentages to cancers diagnosed in South Dakota shows that if HPV were prevented then significant numbers of cancer diagnoses would be stopped.

### Cancers Diagnosed in South Dakota, 2001-2014



## MORTALITY

### Cancer Deaths in South Dakota, 2001-2014



Four percent of the total cancer deaths in South Dakota in 2001-2014 were from HPV-associated cancers. HPV vaccination saves lives in South Dakota. Get vaccinated today.