

Human papillomavirus (HPV) is the most common sexually transmitted infection and is a leading etiology for cancer. The Advisory Committee on Immunization Practices (ACIP) recommends routine vaccination of males and females aged 11–26 years. Studies suggest that U.S. military service members have higher HPV incidence rates and lower vaccination rates compared to the national average. Although the U.S. military enforces many recommended vaccines, the HPV vaccine fails to make the list.

#### AT A GLANCE

- Military healthcare leaders and policymakers can use research findings and evidence-based practice to increase HPV vaccine compliance among their beneficiaries.
- HPV vaccine uptake strategies include policy reform, process guidelines, educational strategies, and mandates.
- An updated U.S. military policy could include the most recent ACIP guidelines on the HPV vaccine and provide guidance about increased avenues for vaccine availability to service members.

#### KEYWORDS

human papillomavirus; vaccination; United States military service members

#### DIGITAL OBJECT

#### IDENTIFIER

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# Vaccination for Human Papillomavirus

## Immunization practices in the U.S. military

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**H**uman papillomavirus (HPV) is the most prevalent sexually transmitted infection (STI), with an estimated 14 million new cases each year and 79 million Americans infected with the virus (Centers for Disease Control and Prevention [CDC], 2016b). HPV can be transmitted via anal, oral, and vaginal intercourse (CDC, 2016b). Some types of HPV infections may cause lesions that, over a period of time, and if left untreated, may develop into cancer. HPV accounts for 5% of cancers, contributing to 90% of anal, 70% of cervical, 40% of vulvar, vaginal, and penile, 30% of laryngeal, and 12% of oral and pharyngeal cancers (CDC, 2015).

However, an HPV vaccine, Gardasil 9®, has been developed that protects against HPV infection. The Advisory Committee on Immunization Practices (ACIP) recommends the routine HPV vaccination of people aged 11–26 years (Markowitz et al., 2014). Although the HPV vaccine is covered by TRICARE, the healthcare program for the U.S. armed services, vaccine uptake is comparatively low among U.S. service members. For example, a study by Shen-Gunther, Shank, and Ta (2011) examined HPV vaccine adherence among TRICARE beneficiaries at Naval Medical Center San Diego. The study examined HPV vaccine uptake rates of 5,088 patients and discovered that the least-adherent group was active duty personnel. Because of the high

HPV prevalence rates and low HPV vaccine uptake rates, there is an urgent need for military medicine to create healthcare policies that reflect the current HPV vaccine recommendations by the ACIP.

### Human Papillomavirus Incidence and Vaccine Uptake in the U.S. Military

Studies show high STI prevalence in the U.S. military, and STIs are one of the leading reportable medical events (Goyal, Mattocks, & Sadler, 2012; Shah et al., 2001). Young people (aged 15–24 years) account for half of all new HPV cases (CDC, 2016a), and 42% of U.S. military personnel are aged 18–26 years (Defense Manpower Research, 2017). Higher HPV infection rates exist in the U.S. military than in civilian counterparts (Goyal et al., 2012; Masel et al., 2015). In a study of female Marine Corps recruits (N = 1,841) who were screened for chlamydia, gonorrhea, and trichomoniasis on entry to the military, 14% tested positive for an STI compared to 8% of similar-aged women in the general population (Boyer, Pollack, Becnel, & Shafer, 2008). Because most STIs have few symptoms and are not associated with severe morbidity or decreased combat capability, STIs are not viewed as military healthcare priorities (Goyal et al., 2012).

All U.S. service members are vaccinated against various diseases, starting with enlisted basic or officer accession training. Mandatory vaccines include, but are