

# Empowering Active-Duty Service Members to Initiate the Human Papillomavirus Vaccine

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Human papillomavirus (HPV) is a common sexually transmitted infection that can lead to cervical, anal, oropharyngeal, penile, vulvar, and vaginal cancers. Active-duty service members are disproportionately affected by HPV, yet this population has very low HPV vaccination rates. Increasing these rates has the potential to prevent HPV-associated cancers. This case study describes a brief and focused educational intervention designed to improve HPV vaccination rates among active-duty service members.

## AT A GLANCE

- Improving the rates of HPV vaccination among active-duty service members has the potential to prevent HPV-attributable cancers.
- Misconceptions about HPV and the HPV vaccine exist among active-duty service members, including the assumption that the HPV vaccine is a mandatory vaccine.
- Additional research is needed to identify the best way to educate active-duty service members about preventing HPV infections.

## KEYWORDS

human papillomavirus; HPV vaccine; HPV vaccination rates

## DIGITAL OBJECT IDENTIFIER

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**H**uman papillomavirus (HPV) is one of the most prevalent sexually transmitted infections that affects both males and females (National Cancer Institute [NCI], 2021a, 2021b). More than 80% of people will be infected with one of the roughly 200 strains of HPV at some point in their lives (NCI, 2021a, 2021b). Although most cases of HPV are benign, a persistent infection with a high-risk strain can lead to the development of cancer (NCI, 2021b; Saslow et al., 2020). Of the 14 high-risk strains, HPV 16 and 18 are responsible for most HPV-related cancers (NCI, 2021b). HPV infections are typically asymptomatic, and the time from exposure to development of cancerous cells can take decades (Daly et al., 2018; NCI, 2021b).

HPV 16 and 18 are two of the nine high-risk HPV strains targeted by the HPV vaccine available in the United States. Annually, more than 90% of the roughly 34,800 cases of cancer linked to HPV are attributable to these high-risk strains (see Table 1) in the United States (NCI, 2021b). HPV-related cancers include cervical, oropharyngeal, anal, penile, vaginal, and vulvar (NCI, 2021a). The most current guidelines (see Figure 1) recommend the HPV vaccine for all males and females aged between 9 and 27 years (NCI, 2021b; Saslow et al., 2020). For adults, completing the HPV vaccine series requires three doses (Saslow et al., 2020). However, returning for subsequent doses is a barrier to completing the vaccine series.

## HPV Risks in Active-Duty Service Members

U.S. active-duty service members are disproportionately affected by HPV in comparison to the civilian population. Sexual behavior trends and low HPV vaccine use are two contributing factors to this disparity. Sexual behaviors that increase the risk of HPV infection (multiple sex partners and having sex without condoms) have doubled since 2011 among active-duty service members (Meadows et al., 2018). Female service members aged in their 20s are particularly at risk for being infected with HPV and are more likely to acquire high-risk strains in comparison to civilian women (Daly et al., 2018; U.S. Army Center for Health Promotion and Preventive Medicine, 2020). Cervical cancer is the only HPV-related cancer for which routine screening is performed (NCI, 2021b). Individuals without a cervix are not routinely tested for HPV; therefore, the actual number of cases may be higher than reported. HPV vaccination is a primary cancer prevention tool and a global health priority (Kwon et al., 2018), but only 26.6% of female