



# HPV Vaccination

## Should it be Mandatory for Entry into Public School?

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h Human papillomavirus (HPV) infection is the most prevalent sexually transmitted infection (STI) in the United States, with 6.2 million cases diagnosed annually (Centers for Disease Control and Prevention [CDC], 2006). There are in excess of 100 different strains of HPV, and more than 30 of these types can infect the genitals (CDC). The CDC estimates that at least 50 percent of sexually active people will become infected with HPV at some time in their lives. HPV infection can be transmitted through genital contact with or without intercourse by touching infected areas around the penis, vagina or anus (CDC). Most HPV diseases are asymptomatic and will typically resolve themselves without any clinical consequences. However, HPV infection is a major risk factor associated with the development of cervical cancer (American Cancer Society [ACS], 2006).

Worldwide, cervical cancer is the second most common cancer in women (CDC, 2006). The ACS (2006) estimates that more than 9,700 cases of invasive cervical cancer will be diagnosed this year in the United States. During 2006 alone, approximately 3,700 U.S. women will have died from this form of cancer (ACS). The rate of cervical cancer deaths in the United States has dropped to 74 percent in the past 50 years due to the widespread use of the Papanicolaou (Pap) test, which allows for the detection of early cervical tissue changes (ACS). The ACS anticipates the death rate from cancer of the cervix to decline around 4 percent each year. It's assumed that with the development and implementation of an HPV vaccine, cervical cancer fatalities will diminish at an even greater rate.

In Jun. 2006, the U.S. Food and Drug Administration (FDA) announced the approval of Gardasil, the first vaccine developed to prevent

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cervical cancer and other diseases in females, which are associated with certain strains of HPV (U.S. FDA, 2006). Manufactured by Merck, Gardasil protects against HPV types 6, 11, 16 and 18, which are known to be precursors of cervical cancer and genital warts (U.S. FDA). The CDC (2006) estimates that these four HPV strains are responsible for more than 70 percent of cervical cancers and 90 percent of genital warts. In clinical trials, Gardasil was found to be 100 percent effective in preventing precancerous cervical lesions, precancerous vaginal and vulvar lesions and genital warts caused by infection with the HPV types against which the vaccine is directed (Merck & Co., Inc., 2006). Females previously infected with HPV strains 6, 11, 16 or 18 prior to vaccination do not obtain any protection from being inoculated. Also, Gardasil does not protect against less common types not included in the vaccine; thus, routine Pap smear screening remains critically important to detect precancerous cervical changes (U.S. FDA).

The FDA licensed the Gardasil vaccine for use in girls and women between the ages of 9 and 26 years (U.S. FDA, 2006). The recombinant vaccine is given through a series of three injections over a six-month period (Merck & Co., Inc., 2006). The HPV vaccination regimen is estimated to cost in excess of \$360 (ACS, 2006). The duration of immunity following a complete immunization series of Gardasil is undetermined at this time (Merck & Co., Inc.). Merck is actively pursuing studies to further evaluate Gardasil's general safety, long-term effectiveness and need for vaccine boosters (Merck & Co., Inc.). As of this writing, Merck is the only company with an approved HPV vaccine on the market, but not for long. Cervarix, GlaxoSmithKline's HPV vaccine, is scheduled to be launched late in 2007.

The federal Advisory Committee on Immunization Practices (ACIP) recommended routine HPV vaccination for all 11- and 12-year-old girls to achieve a maximum impact (National Immunization Program [NIP], 2006). The committee also states that the vaccine could be used in girls and women ages 13 to 26 years and in as young as age 9 at the discretion of a health care provider (NIP). These recommendations were designed to encourage vaccination before initiation of sexual activity and were based on data from clinical trials demonstrating

a greater immune response in girls ages 10 to 15 years compared with women ages 16 to 25 years (U.S. FDA, 2006). The advisory committee also suggested the HPV vaccine be included in the federal Vaccines for Children Program, which provides free immunizations to poor and uninsured children in the United States (NIP).

The ACIP consists of 15 experts appointed by the secretary of the Department of Health and Human Services (HHS), who provide advice and guidance to the secretary of the HHS and the CDC director on the most effective means to eliminate vaccine-preventable diseases (NIP, 2006). This committee develops recommendations for the routine administration of vaccines, schedules, dosages and contraindications applicable to the specific vaccine (NIP). ACIP proposals are closely followed by the health care profession and set the standards for physicians, insurers and public funding of vaccinations. In this country, there are no federal laws that mandate whether certain vaccines should be required for entry into child care, school or college (CDC, 2006). Each individual state determines mandatory vaccination laws required of their residents. However, most states examine the ACIP's recommendations when determining which vaccines children must obtain before entering school (CDC).

### The Question

Herein generates the major debate: Should HPV vaccination be mandatory for public school entry? Some reproductive health advocates support making this vaccine a requirement for school admittance in order to prevent thousands of future female malignancies. On the opposite side of this issue are social conservatives who oppose mandating the HPV vaccine due to its potential to encourage sexual activity. These two viewpoints will be thoroughly discussed in relation to their positions on mandatory HPV vaccinations among 11- and 12-year-old girls in the public school system.

### The Argument For

Cervical cancer experts and women's health advocates contend that the HPV vaccine holds great promise for millions of women. The National Cervical Cancer Coalition (NCCC) and Advocates for Youth assert that in order to effectively combat cervical malignancy, this vaccine



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should be mandatory. The members of these organizations believe strongly that by requiring HPV vaccination among young girls, there is no potential of a woman in this country being denied the opportunity to avoid cervical cancer.

Alan Kaye, chair of the NCCC, relates the HPV vaccine to mandatory seat belt laws. He contends that just because you're wearing a safety belt doesn't mean you're seeking out an accident (NCCC, 2005). The vaccine, like a seat belt, simply reduces the possibility of injury to a potentially innocent person (NCCC). Another voice from within the NCCC also portrays a similar sentiment. Chair of the coalition's medical advisory panel, Juan Carlos Felix, was quoted in *The Washington Post* as saying that he, "would like to see it that if you don't have your HPV vaccine, you can't start high school" (Stein, 2005).

President of Advocates for Youth, James Wagoner, also supports the inclusion of the HPV vaccine in state school programs. He claims that mandating the vaccine is the "most effective way to get the greatest number of young people vaccinated at a time when the vaccine will provide the most protection" (Wagoner, 2006). Vaccination requirements for school attendance are known to raise the rates of children obtaining the recommended vaccine (Task Force on Community Preventive

Services, 2000). In addition, by making a vaccine mandatory, poorer children are more likely to have access to expensive vaccinations (Task Force on Community Preventive Services). Advocates for Youth (2006) contend that it's possible to promote abstinence, educate teenagers about contraception and prevent cervical cancer without endorsing sexual promiscuity by lessening fears regarding HPV and cervical malignancy.

Pro-abstinence groups have long claimed that providing teens with information on sex and contraception encourages intercourse. However, research (Kirby, 2001) does not support this hypothesis. An analysis on programs intended to reduce the incidence of teenage pregnancy concludes that sexuality education that includes methods of contraception does not increase sexual activity, and programs that emphasize abstinence as the safest and best approach, while also teaching about contraceptives for sexually active teens, do not decrease contraceptive use (Kirby). According to some women's health advocates, abstinence and monogamy will not eradicate the morbidity and mortality of cervical cancer as suggested by some conservative organizations, and much more is needed in terms of prevention due to other potential modes of transmission (Monk & Wiley, 2006). HPV is usually transmitted



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through direct skin-to-skin contact, most often during penetrative vaginal or anal sex (Winer et al., 2003). Other types of genital contact in the absence of penetration (oral-genital, manual-genital and genital-genital contact) can lead to HPV infection, but these routes of transmission are much less common than sexual intercourse (Winer et al., 2003).

Daily News Central (2006), an electronic source for public consumer health news, reports that Merck, the manufacturer of Gardasil, has recently spent more than \$1 million to increase public awareness of HPV and cervical cancer. The pharmaceutical company launched the *Tell Someone* campaign and funded the *Make the Connection* program in order to emphasize the link between HPV and cervical cancer. According to an article in *Fortune* (Simons, 2006), Merck is also appealing to states to make the vaccine a requirement among girls in public schools. The editorial features Kelley Dougherty, a company spokesperson, claiming that mandatory requirements for the HPV vaccine will prevent the development of some strains of HPV and will decrease racial and ethnic disparities in vaccine consumption (Simons). However, since Merck is the sole producer of the HPV vaccine at this time, one should assume that any opinions that they offer will be biased. A mandate from the states, which control vaccination policies, would assure Gardasil to be a runaway success. Analysts claim that requiring HPV vaccination would result in potential revenue estimates of \$2 billion to \$4 billion for Merck (Simons).

Some women's health advocates have recently campaigned for the mandatory inoculation of HPV vaccine in all pre-teen boys in addition to girls (Monk & Wiley, 2006). By requiring boys to be vaccinated, the authors contend that the incidence of HPV and cervical cancer in females will be further reduced (Monk & Wiley). Current research is being conducted on HPV vaccinations in boys and men to assess if certain HPV infections and other male diseases can also be prevented. These activists stress that the function of public health is to control the spread of STIs, and if this can be best accomplished by mandating vaccines, so be it (Monk & Wiley).

### The Argument Against

On the other side of the debate are social conservatives and pro-abstinence groups.

Focus on the Family and the Family Research Council (FRC) are leading the opposition for making the HPV vaccine mandatory. These organizations have long held the beliefs that the introduction of prevention methods related to pregnancy or STIs could potentially send a subtle message condoning sexual activity before marriage. These two groups have issued statements publicly supporting the development and widespread availability of this vaccine but disagree with the proposal that the decision to vaccinate a child against HPV be mandated by state governments.

Focus on the Family claims that the decision for children to obtain the HPV vaccine should be held solely by the child's parents. As in all areas of sexual health and education, this organization upholds parents' right to be the primary decision maker and educator for their children (Klepacki, 2006). Klepacki, analyst for sexual health at Focus on the Family, contends that this vaccine is different from others recommended for pre-teens and adolescents because unlike other infectious diseases transmitted by coughing or sneezing, this vaccination offers protection against a disease that is only contracted through sexual activity. Klepacki goes on to say that HPV can be avoided by "primary prevention, and that's abstinence until marriage, and faithfulness within marriage."

The FRC also opposes requiring HPV vaccination among all girls. Gaul (2006), coordinator of the FRC's abstinence project, claims that the vaccine should not be compulsory because unlike measles and many other childhood infections, HPV is not transmitted casually or through indirect contact in public places. The group contends that while it welcomes medical advances such as an HPV vaccine, the single best prevention of all sexually contracted diseases is to restrict sexual activity to the "context of one faithful and monogamous long-term relationship" (Gaul). Vice president for policy at the FRC, Sprigg (2006), echoes parallel attitudes in an editorial he wrote for *The Washington Post*, in which he asserts that the "paternalistic view that because something is good for you the government should force you to do it is not one that most American families would welcome, especially when transmission of the virus can be prevented through behavioral change alone."

## State and Federal Aspects

Even if states do mandate HPV vaccination, parents have options if they don't wish for their children to receive the immunization. Exemption availability and options regarding mandatory vaccinations vary from state to state, but most can be granted for medical, religious or philosophical reasons. In the case of parental rejection of the HPV vaccination or adolescents' desires to avoid discussing sexual concerns with their parents, the vaccine could potentially be made available, without parental consent, through the Title X program. This federally funded program encompasses the prevention of STIs and early detection of cervical cancer (U.S. Department of HHS, n.d.). Through Title X, adolescents may confidentially obtain contraceptive counseling, contraception, treatment for sexually contracted infections and other reproductive health care services (U.S. Department of HHS). In these situations where the teenager seeks out reproductive health care, the teen's well-being and self-determination are considered to outweigh the right of parents to make decisions on behalf of their children (Lo,

### Get the Facts

American Social Health Association  
<http://www.ashastd.org/index.cfm>

CDC  
<http://www.cdc.gov/index.htm>

Henry J. Kaiser Family Foundation  
<http://www.kaiseredu.org/index.asp>

National Cancer Institute  
<http://www.cancer.gov/>



2005). After a thorough review of the literature, there has not been any mention of the inclusion or the exclusion of this vaccine in the Title X program.

## Clinical Implications

The issue of making HPV vaccination mandatory among all girls for public school entry is generating great controversy. Disagreements over childrearing practices and issues surrounding sexuality will continue until the end of time, but it's crucial for health care providers to supply accurate information to both parents and children about HPV infection and vaccination. Ensuring widespread vaccine acceptance will require reaching out to pre-adolescents, teenagers and their parents, with details on the risks of HPV and the benefits of a vaccine that provides immunity for some of the most deadly strains of this virus.

In a recent analysis of 1,600 parents, the most significant predictor of parental HPV vaccine acceptance was belief in its benefits to society and to their children (Dempsey, Zimet, Davis, & Koutsky, 2006). Authors of the study also noted that peer-group influence, physician recommendation, the perception that their child was susceptible to STIs and personal experience with genital warts were identified as factors that influenced parental approval of the HPV vaccine. In a second research analysis conducted by Olshen, Woods, Austin, Luskin, and Bauchner (2005), 25 parents participated in a qualitative assessment regarding HPV vaccination. Study results show that the parents possessed an overall positive consensus for use of the HPV vaccine; however, the analysis also concluded that while some participants perceived their children not to be at risk for HPV infection, others had uneasy concerns about the young age at which the vaccine is recommended.

It will be critical for health care professionals to educate young girls and their families about HPV infection in order to increase awareness of this potentially deadly disease. Physicians and nurses should also take time to assess the beliefs of female patients and their parents regarding HPV infection and their feelings about vaccine utilization. It's the duty of the medical community to provide accurate information about this infection and the measures that can be employed to prevent its development.

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## JOIN THE DISCUSSION

What do you think about the HPV vaccine?

Should it be mandatory for entry into public school?

What are nurses' roles in educating girls and their parents about the vaccine?

Tell us what you think.

Write to Nursing for Women's Health at [nwh@awhonn.org](mailto:nwh@awhonn.org) and put "HPV Vaccine" in the subject line.

Please include your full name, city and state and a phone number where we can reach you should your article be selected for publication.

Parents should also be counseled about the young age at which the HPV vaccine is suggested and the reasoning behind this age recommendation. In addition, health care providers must lobby for regulations and policies that will assure access of the HPV vaccine to low-income and uninsured females.

### Conclusions

HPV vaccines have the potential to substantially reduce HPV-associated morbidity and mortality. Regardless of whether or not the HPV vaccine is made mandatory, health care professionals should supply details regarding this condition and the vaccine to all females who fall in the age range of 9 to 26. Falling under the category of health promotion, the HPV vaccine could prove to be a significant tool for fighting cervical cancer. In conclusion, Monk and Wiley (2006) state it best by declaring that to "have a vaccine that

prevents cancer and not use it would be one of the greatest tragedies." **NWH**

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