# Where Do the Recommendations for HPV Vaccination Stand?

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The HPV vaccine is a powerful tool that can prevent a number of HPV-associated cancers and diseases; the current recommendations aim to ensure the greatest benefit is seen at both the individual and population level.

From 2012 to 2016, there was an average of 43,999 HPV-associated cancers reported each year, according to a recent study (*MMWR Morb Mortal Wkly Rep* 2019;68:724-728). Of the estimated 34,800 cancers caused by HPV, 92 percent were attributed to infection types that the HPV vaccine protects against and, therefore, were preventable, according to the report.

Data from the 2018 National Immunization Survey-Teen showed that only 51 percent of teens had received all recommended doses of the HPV vaccine (*MMWR Morb Mortal Wkly Rep* 2019;68:718-723).

"The HPV vaccine continues to be the best way to protect our young boys and girls from developing certain cancers, including cervical cancer," noted CDC Director Robert R. Redfield, MD, in a statement. "This new data shows 1 in 4 parents who received a medical recommendation for the HPV vaccine chose not to have their child

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vaccinated. The HPV vaccine is safe, and we encourage parents to get their pre-teens vaccinated and take the next step to prevent their children from developing HPV-related cancer later in life."

## Impact of HPV Vaccination

Since the introduction of the HPV vaccine in 2006, rates of HPV infections have started to decline. HPV infections with strains 16 and 18 dropped 83 percent among girls ages 13-19 and by 66 percent among women ages 20-24 up to 8 years after vaccination, according to a recent systematic review (*Lancet* 2019;394(10197):497-509).

"Our study, including data from more than 60 million individuals from 14 countries, clearly showed a substantial impact of HPV vaccination on HPV infections, anogenital warts, and precancerous cervical lesions among women," noted study authors Melanie Drolet, PhD, and Marc Brisson, PhD. "[It] also showed significant herd effects among unvaccinated boys and older women. Greater and faster impact and herd effects were observed in countries vaccinating multiple-age cohorts (e.g., 9 to 14-year-old girls) and reaching a high vaccination coverage."

Building off a previous meta-analysis, the researchers conducted this updated review for two main reasons: 1) the number of countries and studies published about the impact of HPV vaccination had substantially increased since the first analysis; and 2) the number of years since the introduction of the first HPV vaccination had also increased, allowing for longer follow-up.

"This longer follow-up," Drolet and Brisson explained, "made it possible to examine changes in high-grade precancerous lesions (not included in our first meta-analysis) and whether the decreases in HPV infections and anogenital warts observed in the previous meta-analysis continued."

The results, according to Drolet and Brisson, "provide strong evidence that vaccination against HPV is working to prevent cervical cancer in the real-world setting, as both the cause (HPV infection) and the most proximal outcome (high-grade precancerous cervical lesions) are decreasing in countries that introduced HPV vaccination.

"By using data from the general population of several countries, our study also provides promising early signs that cervical cancer elimination might be possible if sufficient vaccination coverage can be reached."

## Current Recommendations

The recommendations for HPV vaccination were recently updated to include the immunization of some adults ages 27-45. However, the guidelines for adolescents have not changed.

The CDC's Advisory Committee on Immunization Practices (ACIP) continues to routinely recommend HPV vaccination at age 11 or 12 years with vaccinations starting as early as 9 years old. Catch-up vaccinations have been recommended since 2006 for females through age 26 and, as of 2011, for males through 21 years old. In June 2019, ACIP recommended catch-up vaccination for both men and women through the age of 26.

The expanded ACIP recommendations do not advocate for catch-up vaccinations for all adults ages 27-45; however, they recognize that some individuals who have not received adequate vaccinations may be at risk for new HPV infections and could benefit from the vaccine. ACIP now recommends shared clinical decision-making when it comes to HPV vaccination for men and women in this age group.

"[The] decision from ACIP emphasizes what the data has shown—that the HPV vaccine is safe and effective for use in patients ages 27-45, and that use of the vaccine in this age group should be the result of shared decision-making between patients and their trusted physicians," said Christopher M. Zahn, MD, Vice President of Practice Activities at the American College of Obstetricians and Gynecologists, in a statement.

> "Although oncologists do not administer the vaccine, they can still play a role in educating patients and their families about the benefits of the vaccine."
>
> *—Justin Chura, MD, Chief of Surgery & Director of Gynecologic Oncology and Robotic Surgery, CTCA Philadelphia*

"The HPV vaccine can be important prevention for individual patients and for the population at large. Obstetrician-gynecologists are encouraged to discuss with their patients ages 27-45 the potential benefits of HPV vaccination, addressing the reduced efficacy compared to vaccination within the younger target age range, as well as the reduced risk of high-grade disease and cervical cancer," he continued. "Women's decisions will also likely consider their individual circumstances, preferences, and concerns, and the role of the obstetrician-gynecologist is

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to provide unbiased information in a balanced, thorough way in order to aid that decision-making.

"The HPV vaccine can halt transmission of the virus and can prevent life-threatening cancers later in life. [This] decision from ACIP should encourage physicians to discuss the vaccine routinely with their 27- to 45-year-old patients and should help more patients feel confident in their decisions to protect themselves by getting vaccinated."

In October 2018, the FDA approved the expanded use of the human papillomavirus 9-valent vaccine, recombinant to include individuals 27-45 years old. The vaccine protects against nine types of HPV and prevents cancer, precancers, and genital warts.

"[This] approval represents an important opportunity to help prevent HPV-related diseases and cancers in a broader age range," noted Peter Marks, MD, PhD, Director of the FDA's Center for Biologics Evaluation and Research, in a statement regarding the approval.

"The CDC has stated that HPV vaccination prior to becoming infected with the HPV types covered by the vaccine has the potential to prevent more than 90 percent of these cancers, or 31,200 cases every year, from ever developing."

## Focus on Adolescents

While these new recommendations make it possible for older individuals to receive the HPV vaccine, experts note that the focus should remain on adolescents who will benefit most from the vaccination.

"The previous recommendations suggested only immunizing ages 9-26, but after the August 2019 update looking at 11 studies in an older population, researchers saw that the vaccine still had efficacy in this age group," explained Justin Chura, MD, Chief of Surgery & Director of Gynecologic Oncology and Robotic Surgery, CTCA Philadelphia. "However, determining who within that age group should be immunized remains a challenge.

"In general, most adults will have been exposed to the HPV virus by age 27 and the overall benefit of immunization in older adults is low. For maximum long-term public health benefit, vaccination should still start around age 11."

Drolet and Brisson noted that their study offers evidence that "HPV vaccination programs targeting girls and young women already provide substantial decreases in HPV-related conditions among vaccinated girls/young women and unvaccinated individuals (through herd protection)."

Another paper recently published by their team predicts that extending vaccinations to older ages would lead to small additional health benefits at the population level (*Ann Intern Med* 2019; doi:10.7326/M19-1182).

"These new recommendations expand the potential pool of people to be vaccinated, thereby decreasing burden of disease," Chura told *Oncology Times*. "However, in my opinion, the focus should still be on vaccinating children around age 11 who have not yet been exposed to the virus. This will maximize the benefit to the individual and general public health.

"Although the recommendation allows for an expanded population to be immunized and advocates for shared decision-making, the health benefits are relatively small," he emphasized. "Other preventative measures like exercising, eating healthy, limiting alcohol intake, and not smoking can have a much larger benefit."

## Patient Education & Oncologists

Ensuring patients (and in the case of children, their parents) are educated on the importance of the HPV vaccine, as well as current recommendations, is crucial to improving HPV vaccination rates.

"Every year in the U.S., HPV causes cancer in men and women, but we have the power to change this," explained Lisa C. Richardson, MD, MPH, Director of the CDC's Division of Cancer Prevention and Control, in a statement. "Cervical cancer was once the leading cause of cancer deaths among women in the U.S. The HPV vaccine and cervical cancer screening have made it one of the most preventable cancers. HPV vaccination is cancer prevention. We can protect our loved ones with the HPV vaccine."



While oncologists often see patients after they have already developed an HPV-associated disease, they can, nevertheless, have an impact on patient education.

"Although oncologists do not administer the vaccine, they can still play a role in educating patients and their families about the benefits of the vaccine," Chura concluded. "For instance, while HPV is most associated with cervical cancer, making patients and families aware that it can also cause other cancers such as head and neck, anal, vulvar, vaginal, and penile may be helpful." OT

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